ONLY £1.85

CPC Attack!

BRITAIN'S BIGGEST AMSTRAD CPC MAGAZINE

CREATING MUSIC ON YOUR CPC

THE SIREN SOFTWARE INTERVIEW

The Addams Family
THE COMPLETE MAPPED-OUT SOLUTION

£1.85 OCTOBER 1992
NUMBER 5



PLUS Q&A • BUSINESS • PD • TUTORIALS • PROGRAM LISTINGS • REVIEWS • NEWS

BrunWord

464 ROM Module £59

This is a low cost version of our fabulous ROM Module, specially produced for use on CPC computers with no disc drive. To get down to this price, we've removed the database and the BrunWord Elite fonts but all the word processing features and the fantastic As You Type spelling checker, are there ready for instant use.

Plug on the module, type ¦BW and half a second later the programme is loaded and ready to use. Then the really exciting bit! The tutor file is stored in the ROM, simply type G TUTOR1 <ENTER> and 2 seconds later it's in the BrunWord editor ready for you to experiment with. The tutor takes a complete novice straight into word processing and even includes some spelling errors to find and correct. And all this without once using the cassette.

The next step is to type in the example letter as instructed in the manual. Do it carefully as the computer will beep at every spelling error..... Save it as a memory file, make some changes, change your mind and call it back in 2 seconds! You only use the cassette when you want to make a permanent record. If you are practising your typing or your spelling, you may go for days without using the cassette......

The 464 BrunWord ROM Module is brilliant for learning to type and learning to spell, even if you don't have a printer. But that's just the beginning, you could go on to write your own full length novel. BrunWord ROM is a must for all serious 464 owners. (ROM module for 464 with disc drive add £15. ROM module for 464 Plus add £10).

Elite ROM Module £125

This is the ultimate addition to a 6128 computer. Word processor, spelling checker, 33,000 word dictionary, relational database and 10 superb 'type setting' fonts programmed into one high capacity ROM. Massive memory, small size and includes our latest innovations, the As You Type spelling checker and our System 2 simplified printer control.

The Elite ROM Module is supplied with an 8 bit Printer Status Port which enables the 'type setting' fonts to be used. It has many extra features including page layout commands and high quality high speed screen dump routines for 9 pin and 24 pin printers.

System 2 Printing

Our System 2 control, in the BrunWord Elite ROM module, makes micro justified printing very easy to use. Request auto-formatting and System 2 will take your screen layout, adjust it for the font that you are using and even allow for different printer margins. Roughly on the right, then it will be *on the right.* Roughly in the middle, then it will be *in the middle.* For straightforward pages, no layout instructions are required even when using proportional fonts. It's all controlled from simple instructions in the print menu, which are, of course, saved with the file.

6128 ROM Module £79

BrunWord 6128, BrunSpell, 33,000 word dictionary and Info-Script (powerful relational database) have all been programmed into one huge ROM along with our very latest innovation, the 'As You Type' spelling checker. The ROM is wired into a special printed circuit board and the whole unit coated in protective resin. It is very compact and plugs directly onto the expansion socket of the CPC6128 or 6128 Plus.

Plug on the module, switch on the computer, type ¦BW and the whole system is immediately ready for use. Type into the word processor, if the computer beeps, press <f3> and ask for help, transfer the correct spelling and resume typing. Use the database to print labels, search for an address, transfer it to the word processor and print it out, all without a single disc operation to slow you down, (except to load and save your own data).

Very Serious

The Elite and 6128 ROM Modules are perfect for an unexpanded CPC6128 or 6128 Plus. You need no other add ons. However, anyone who has two disc drives knows the frustration of inserting a disc, asking to load a file and being told that the other drive has no disc in it. You simply forgot to tell the computer to change drives. That's now a thing of the past. The BrunWord ROM always assumes that the drive with the disc in it is the one you want to use. It's so simple, yet saves such a lot of frustration! If you have a 3.5 inch second disc drive then you can have KDS ROMDOS included in your ROM for £6 extra.

Any Printer ?

All ROM versions work with any Epson compatible printer. All 24 pin printers can make full use of System 2. Older designs of 9 pin printers (Amstrad DMP2160 etc) are limited to whole space justification but modern 9 pin printers (Star LC10 etc) can use micro justification, even with proportional printing.

Epson 24 Pin

Every dot of ink on this page, including the drawing, the large 'BrunWord', our name & address, credit card symbols and Teddy, was printed in one operation using the BrunWord Elite ROM module and an Epson LQ1070 printer (wide carriage LQ570).

ROM Box ?

Remember... Our ROM Modules plug directly onto the computer. *No ROM box is needed.*

BrunWord 6128 £30

BrunWord 6128 on disc is not quite so convenient as the ROM version and doesn't have our very latest additions, but at £30 it represents excellent value. Supplied complete with BrunSpell and 30,000 word dictionary, type RUN"BRUNWORD" to load both programmes and the dictionary. A very fast screen response, extensive editor commands and the 4000 words per minute spelling checker, make it a joy to use. On the disc is a tutor file which takes even a complete beginner straight into word processing and demonstrates the powerful editing and formatting features of BrunWord. The 40 page manual includes step by step instructions to produce and print a simple letter.

Font Editor £20

The Font Editor enables the BrunWord Elite fonts to be edited and saved to disc. It can handle fonts up to 32 dots high, so very high quality fonts can be created and used in the 'Headline' mode, on most 9 pin and all 24 pin printers. 'Headline' is a standard feature of the BrunWord Elite ROM module. Smaller fonts 24 dots high or less can be downloaded to 24 pin printers or used in the 'Headline' mode. The Font Editor also has size change routines and the ability to import hand drawn characters (using a Dart Scanner).



'The Gun Girl'

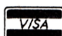
She knows how to cure bad spelling! (Drawing by Chris Rothero).

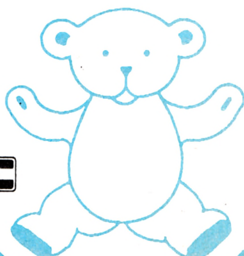
Send cheque/PO/Access, Visa, Connect number to:-

Brunning Software

138 The Street,
Little Clacton, Essex, CO16 9LS.
Telephone (0255) 862308







BrunWord 6128 with BrunSpell (on 3in disc). . £30.00
CPC464 ROM Module with BrunSpell. £59.00
464Plus ROM Module with BrunSpell. £69.00
464 ROM Module with connector for disc drive. £74.00
6128 ROM Module, BrunSpell & Info-Script. . . £79.00
Elite ROM Module, BrunSpell & Info-script. . £125.00
BrunWord Elite Font Editor. £20.00

****** *You must state 'Ordinary' or 'Plus'* ******

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

CPC Attack!

CONTE

11 SOUND ADVICE Music on the CPC has never been totally understood. We give you sound advice on creating music from scratch or ripping it from PD progs, revealing the best programs to use

Stradavarious to you, STRAD to frendz. That's mi naim and fun's mi game. Chile out and get a load of this month's cool features. Muzic ain't the most best-liked think to read bout, but it's well 'ard to knaw bouts. Learn it and you could be the next Urban Shakedown.

I've also gotten in sevn games this month, they ain't that good, but they're noo. Catch ya later!



34 MEGA SURVEY We poke our nose into everybody's business by asking the most pertinent questions. Are you game enough to reply? If you aren't, you can't blame us for getting it wrong ever again

18 THE SIREN SOFTWARE INTERVIEW Simon Cobb of Siren Software talks candidly about his company's plans on the CPC front, revealing lots of interesting developmen

SPECIALS

20 WHAT THE HECK IS CP/M? CP/M's not everybody's cup of tea, but we explain the benefits and give some advice to get you started

50 DEMO TIME By now you should be experimenting and making up a few of your own demos. But no matter how much you know, there is always plenty more to learn

Welcome to CPC ATTACK!

Is this is our best issue yet? By filling in and returning the survey you're not only telling us what you think - you're telling us what you want. Before returning the survey, have a listen to what we think you want. Then you'll have more cause to tell us what you really want. We think that as the CPC games market is dwindling, you want to learn more about the applications/ programming/ hardware available for the CPC. We will still review games and provide tips, but a large part of the magazine will be devoted to feature articles and technical help. The magazine you want is already taking shape within this issue, but it still needs some fine tuning. For instance, which articles do you like, and what do you want more or less of? Go on, fill in the MEGA survey - you won't get another chance for at least a year.

REGULARS

8 NEWS Citizen launch new printers, a Sonic handheld, Amstrad's new games machine, SD's graphical user interface and lots more

38 POKES, MAPS & TIPS Lots of tips, multiface pokes and help, and you guys did it

40 COMPLETE CONTROL The best map section the CPC has seen. This month, we map out The Addams Family, showing you where to find Pugsley, Wednesday, Granny, Lurch, Morticia and Thing

43 THE DUNGEON Going from strength to strength, we've got four new games for you!

48 PUBLIC SECTOR The only monthly round-up of public domain and homebrew reviews worth reading

52 LISTINGS A plethora of type-ins for the DIY-programmer in this new 4-page regular feature

58 Q&A The best technical advice and the best technical reviews all rolled into one great section

66 NEXT MONTH Can we get any better? Will there be more revealing interviews? What will we be reviewing? Find out now!

SERVICES

57 CLASSIFIED There's a surprise waiting for every reader wanting to off load equipment - the service is now FREE - but only for a limited period

36 MAIL ORDER These special book bargains are only available through this page

26 SCREEN TEST We review the magnificent seven. Well, maybe not magnificent, and I don't think there are seven of them. Jeepers, I think there's only six reviews this month!

CPC CREW

The wicked words:

EDITOR
Pat Kelly
TECHNICAL EDITOR
Rob Scott
SUB-EDITOR
Lisa Davis
CONTRIBUTORS
Vic Barnes, John Hudson, Richard Fairhurst, Richard Wildey

The hardcore art:

ORIGINAL DESIGN
Steve Hicks
DESIGN CONTRIBUTOR
Kate Bowen
ILLUSTRATOR
Stuart Harrison

The groovy ads:

AD SALES DIRECTOR
Alan Talbot
AD MANAGER
Richard Vaughan
ASST. AD MANAGER
Liz Edgar

Getting it all together:

PRODUCTION CONTROLLER
Rachel Dixon

The management:

GROUP EDITOR
John Taylor
PUBLISHING DIRECTOR
Wendy Palmer

DEPUTY MD CONSUMER MAGAZINES & MARKETING SERVICES
Ray Lewis

MD CONSUMER MAGAZINES & MARKETING SERVICES
Peter Welham

CPC ATTACK!,
Floor 3, Greater London House, Hampstead Road, LONDON NW1 7QQ
Tel: 071 388 3171
Fax: 071 387 9518

PRINTED BY
BPCC, Colchester.

SPECIAL THANKS
To all the backroom boys who helped out and to everyone else that knows us.

CONTACT

Is there something we should know? Need help on technical matters or games? Want to get something out in the open? Then you need a contact.
You can be certain of getting your enquiry answered within the magazine if you address your letter to the right person or department. We can't personally reply to enquiries, either by telephone or post, but, you can reach us by writing to, or faxing the listed departments at:
CPC ATTACK!, HHL Publishing, Floor 3, Greater London House, Hampstead Road, London NW1 7QQ
or FAX: 071-387 9518

P.S. If you have a problem with any advertising company in the magazine, you can always call our advertising department as long as it's between normal working hours. They are always available to help with your problems.

CPC Q&A
Always ready to answer your problems, the technical help section is crammed with helpful advice, tips and readers' problems. If you have any advice or handy tips to offer, send them in - prizes awarded for every tip published.

LETTERS
If you ever feel the need to express yourself, want to tell the world how wonderful you are, how crap a program is or if you wish to join in the topical forum, then get scribbling.

SUBMISSIONS
We are always on the look out for interesting and topical articles for publication. If you have a special set-up, or know of a special utility, you could write an article about it for CPC ATTACK! You could become a regular contributor, earning lots of money for your work.

PROGRAM LISTINGS
Listings and 10-Liners are superb learning ground for would-be programmers, and they also provide excellent utilities and games. In CPC ATTACK, all listings are treated as submissions and, as such, contributors are paid real cash. Please remember to include a disc or tape with the listing on it!

AMY'S PMT
Whether you want to give pokes, maps, tips (and cheats) or want to get some, this is the place to do it. Lotsa prizes to be won each and every month for the best submissions published.

CLASSIFIED
Not only for getting rid of your old equipment and grabbing a great bargain, but also for CPC contacts and user groups. The best way to sell your product.

COMPETITIONS
Lots and lots of COMPO's. That's what we'll be striving to offer. You can win quite easily, but you'll have to get your entry into the correct hat! Any competition wrongly addressed goes straight into the dustcart.
Don't put any letters or tips into a competition submissions as we don't open them other than to check if a winner's answers are correct.

CPC ATTACK! DIRECT
If you want to place an order, or have any problems with the service then please write, or call 071-388 3171 and quote CPC ATTACK! DIRECT.

SUBSCRIPTIONS
The subscription department is in a totally different office at a completely different location. If you want to subscribe or notify of a change of address you can send off your details to the address below:
CPC ATTACK! SUBSCRIPTION,
HHL Subscription Department, Lazahold Ltd., PO Box 10, Roper Street, Pallion Industrial Estate, Sunderland SR4 6SN.
TEL: 091-510 8787
FAX: 091-510 0155

SOFTWARE CITY

CALL US ON:
0902 25304











SOFTWARE CITY
Unit 4, Business Development Centre
21 Temple Street, Wolverhampton WV2 4AN
TEL: (0902) 25304 FAX: (0902) 712751

BUDGET TITLES

1st Division Manager	£3.99
2 Player Soccer Squad	£3.99
3-D Pool	£3.99
3-D Tennis	£3.99
Ace 1 & 2	£2.99
Action Fighter	£3.99
Afterburner	£3.99
Airbourne Ranger	£3.99
Altered Beast	£3.99
Arkanoid 1 or 2	£3.99
Barbarian 2	£3.99
Batman the Caped Crusader	£3.99
Batman The Movie	£3.99
Biff	£3.99
Bobsleigh	£3.99
Boulderdash	£2.99
Boxing Manager	£3.99
Bubble Bobble	£3.99
Bubble Dizzy	£3.99
Cabal	£3.99
California Games	£3.99
Castlemaster	£3.99
Championship Golf	£3.99
Chase H.Q.	£3.99
Chuckie Egg 1 or 2	£3.99
Classic Trainer	£2.99
Colossus Bridge	£3.99
Colossus Bridge (Disc)	£7.99
Colossus Chess 4	£3.99
Colossus Chess 4 (Disc)	£7.99
Commando	£2.99
Continental Circus	£3.99
Cricket Captain	£3.99
Cup Football	£3.99
Daley Thompsons Decathlon	£3.99
Daley Thompsons Olympic Challenge	£3.99
Daley Thompsons Olympic Challenge (Disc)	£4.99
Double Dragon 1 or 2	£3.99
Dragon Ninja	£3.99
Edd The Duck	£3.99
Emlyn Hughes Int. Soccer	NEW £3.99
F-1 Tornado	£2.99
F-16 Combat Pilot	£3.99
F-16 Combat Pilot (Disc)	£7.99
Fantasy World Dizzy	£3.99
Fireman Sam	£3.99
First Past the Post	£3.99
Football Director	£3.99
Footballer of the Year 2	£3.99
Forgotten Worlds	£3.99
Games Summer Edition	£3.99
Games Winter Edition	£3.99
Gauntlet 1, 2 & Deeper Dungeons	£4.99
Ghostbusters 2	£3.99
Ghouls and Ghosts	£3.99
Go for Gold	£3.99
Golden Axe	£3.99
Graham Gooch Match Cricket	£2.99

BUDGET TITLES

Grell and Fella	£3.99
Gunship	NEW £3.99
Hard Drivin'	£3.99
Heroes Of The Lance	£3.99
Hideous	NEW £3.99
Impossamole	£3.99
Indiana Jones Last Crusade	£3.99
International Karate+	£3.99
International Manager	£3.99
Italia 1990	£3.99
Jack The Nipper 1 or 2	£2.99
Jaws	£2.99
Jimmy's Soccer Manager	£3.99
Kenny Dalglish Soccer Manager	£2.99
Kentucky Racing	£2.99
Kwik Snax	£3.99
Last Ninja 2	£3.99
League Football	£3.99
Lotus Esprit	£3.99
Magicland Dizzy	£3.99
Man-Unt	£3.99
The Match	£3.99
Matchday 2	£3.99
Microprose Soccer	£3.99
Midnight Resistance	£3.99
Mini Office	£2.99
Monty Python	£3.99
Moonwalker	£3.99
Multi Player Soccer Manager	£3.99
Myth	£3.99
Narco Police	NEW £3.99
The National	NEW £3.99
New Zealand Story	£3.99
Nigel Mansell Grand Prix	£2.99
Nightbreed (Arcade)	NEW £3.99
On The Bench	£3.99
Operation Thunderbolt	£3.99
Operation Wolf	£3.99
Outrun	£3.99
Paperboy	£2.99
Pegasus Bridge (War Game)	£3.99
Popeye 2	£2.99
Postman Pat 1 or 2	£2.99
Powerdrift	£3.99
Pro Tennis Tour	NEW £3.99
Professional Footballer	£3.99
Pub Games	£2.99
Puzznic	£3.99
Quattro Adventure (Dizzy Etc.)	£3.99
Quattro Cartoon (Little Puff)	£3.99
Quattro Coin Ops (Fast Food Etc.)	£3.99
Quattro Combat	£3.99
Quattro Fantastic (Pub Trivia Etc.)	£3.99
Quattro Skills (Int. Rugby Sim Etc.)	£3.99
Quattro Sports	£3.99
Rainbow Island	£3.99
Rambo 3	£3.99

BUDGET TITLES

Renegade 1 or 3	£3.99
Rick Dangerous	£3.99
Robocop	£3.99
Rugby Coach	£3.99
Scooby Doo and Scrappy Doo	£3.99
Seymour Goes to Hollywood	£3.99
Shadow Of The Beast	£3.99
Shadow Warriors	£3.99
Silent Service	£3.99
Silkworm	£3.99
Skate Wars	NEW £3.99
Snooker Management	£3.99
Soccer Rivals	£3.99
Space Harrier 2	£3.99
Star Wars	£3.99
Steve Davis Snooker	£2.99
Strider	£3.99
Stryker in Crypt of Trogan	NEW £3.99
Striker Manager	£3.99
Stunt Car Racer	£3.99
Super Cars	£3.99
Super Off Road Racer	£3.99
Super Seymour	£3.99
Switchblade	£3.99
Sword and Sorcery	£3.99
Target Renegade	£3.99
Testmaster Cricket	NEW £3.99
Toobin	£3.99
Toyota Celica	£3.99
Treasure Island Dizzy	£3.99
Treble Champions	£3.99
Turbo Outrun	£3.99
Turrican 1 or 2	£3.99
Vendetta	£3.99
Viz	£4.99
Wonderboy	£3.99
World Class Leaderboard, Leaderboard & Tournament	£4.99
World Cup	£3.99
Yogi's Great Escape	£2.99
Zoids	£3.99

SOFTWARE CITY SPECIALS

Barry McGuigan Boxing	£1.99
Cyberworld (Cass)	£1.99
Dark Fusion	£0.99
European Super League (128K)	£3.99
European Super League (Disc)	£4.99
Kick Off 2	£4.99
Pitfighter	NEW £3.99
Lords of Chaos	£4.99
Man Utd Europe/J Khan Squash	NEW £3.99
Rugby Manager	£1.99
Starstrike 1 or 2	£2.99
Tetris	£2.99
Turtles 2 (The Coin – 0p)	NEW £4.99
World Class Rugby	NEW £4.99
Yes Prime Minister	NEW £1.99



Citizen's three-pronged attack! on the printer market

CITIZEN'S QUIET CHARTER

printers, have announced a new trio of 24-pin printers.

Having seen what the opposition had to offer, Citizen then listened to the consumer to determine what was really required at the 'sharp end'. The result has been designated the Swift 2 Series. This includes the Swift 200, an entry level, ultra-quiet printer with six resident LQ fonts and optional colour upgrade.

The company's consumer flagship is the Swift 240C, featuring colour (and mono) printing as standard and incorporating the new Epson ESC-P2 language. This has enabled the 240C to sport, not only nine resident LQ fonts, but the facility to make two of them 'scaleable' from 8 to 40 point size. A cartridge slot is included so that a library of these ultra quality (scaleable) fonts can be assembled, according to budget and requirements. The good news for CPC and Brunword users is that Citizen have not removed the 'ESC a' command. This means (unlike the Epson LQ-570) the new Swift 2 Series printers will support Brunword's sophisticated justification routines.

Between the Swift 200 and the 240C is the Swift 240. This incorporates all the features of the latter with the exception of colour printing which is an optional upgrade (approx £38).

Common to all three machines is 'Quarter Printing'. This original feature allows four pages to be printed on one A4 sheet of paper. Users of Filofax-type personal organisers will find this facility very useful. Also, the production of A5 booklet layouts will be easy and virtually automatic.

A buffer size of 8k is standard, but all machines can be expanded to at least 40k with the two 'scaleable' printers able to support 136k!

Noise levels are by far the lowest yet for impact machines. All three printers check in at 47dB when operating normally, but achieve a whisper-like, 43dB in Quiet mode.

Citizen's unique system of macros, and the menu-driven set-up configuration is retained and completely eliminates the need for the ubiquitous dip switches. Everything you need to know about your printer appears on an LCD screen, called the Command Vue III Control Panel. There are four emulations; Epson LQ-570, IBM ProPrinter X24E, NEC P20 and Citizen.

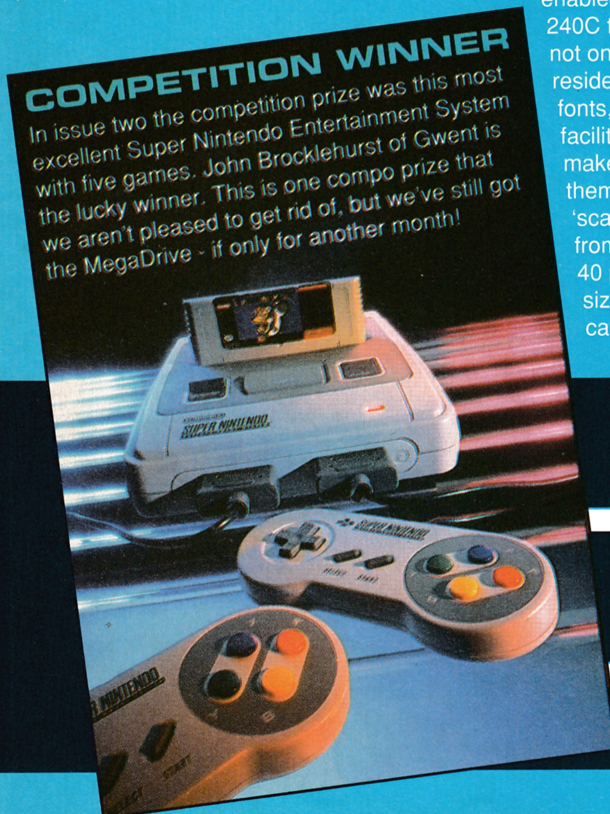
Superb paper handling has always been a Citizen forte and the new range maintains that tradition. Push/pull tractor with auto-parking is fitted as standard and all models will handle multi-part stationery as well as envelopes. A sheet feeder is offered as an optional extra.

Other accessories include: OHP transparency film for producing colour slides, easy to install serial interface and black film ribbon for superior quality printing.

The 'made in Scunthorpe' Swift 2 Series printers will be available in September from Citizen's 200 dealers. The cost has not been finalised, but is expected to be: Swift 200 - £269, Swift 240 - £349, Swift 240C - £369.

COMPETITION WINNER

In issue two the competition prize was this most excellent Super Nintendo Entertainment System with five games. John Brocklehurst of Gwent is the lucky winner. This is one compo prize that we aren't pleased to get rid of, but we've still got the MegaDrive - if only for another month!



GAMES NEWS

Not much to report this month. We can reveal that there will only be three major full-price releases from now until Christmas unless someone knows different. Titus will be releasing a CPC version of Crazy Cars 3. Gremlin have started on Nigel Mansell's Grand Prix, and US Gold will soon be releasing Indy 4.

The Hit Squad will be releasing Jack Nicklaus Golf, Badlands, and STUN Runner within the next week or two, while Codemasters' DJ Puff should soon be making an appearance. Kixx have no imminent releases, but they did reveal that Super Monaco GP, Solo Flight, Flimbo's Quest, F15 Strike Eagle, Strider 2 and Heavy Metal are still to be released while some other titles' releases, previously reported in Attack!, have been suspended. SWIV, Acrojet and Shadow Dancer are amongst these no-go'ers.

Alternative have some imminent releases amongst which are Tomas the Tank Engine 2, Popeye 3, Sooty and Sweep 2 , Alvin & the Chipmonks, Bully's Darts (a licence of the Bullseye quiz) and two more '4 Most' collections though the four games which are to go on each are as yet undecided.

Codemasters have announced the release of Flicks, an overhead racing game in the style of Micro-Machines (released on the consoles). More than just a race, Flicks is more of a constant head-to-head battle to the finish line.

SNIPPETS
HITEC FOLDS

Hitec, suppliers of games such as Top Cat, Turbo the Tortoise and Yogi's Great Escape have gone into administration. Many of their releases are still available from shops, but alas, unless a saviour appears, there will be no more releases from the company.

SNIPPETS
EASY THEORY

Pathway Software are set to release their first-ever program for the CPC. Easy Theory, which will be released soon, aims to teach music theory by guiding users through the first steps towards passing Grade 1 exams. As the program uses a menu system it claims to be easy to use. Costing between £5-£7, Easy Theory will be released on tape and disc. Watch out for a review soon.

AMSTRAD'S MEGADRIVE COMPATIBLE PC

Whilst Amstrad have dropped the CPC, they have not quite abandoned home computing. Anyone who still has any regard for the company will be glad to hear of their new joint development with Sega. At £899 the MegaDrive PC will have both the 68000 and 80286 central processors, a 3.5" drive, hard disk capability (not standard), a cart port, a CD drive for the Megadrive system and will be bundled with Sonic The Hedgehog and probably a PC starter kit. This will allow players to access arcade games such as Sonic, while still being able to play strategy classics like Wing Commander II and Monkey Island. At just under £900 though it seems a bit pricey.

CPC MACINTOSH

SD Microsystems have revealed that they are releasing a graphical user interface (GUI) for the CPC. Although there have been several attempts at this before, SD claim that their system, which is supported by mouse, joystick or keyboard, is compatible with most CPC programs.

The system has been written by Simon Forrester, who also developed Bootracker and is a respected CPC developer, and signed around the Macintosh system. SD Microsystems are hoping to sell the system on disc for £15 and are also developing a ROM version.

Also from the SD stables is Big Base (working title), a random access disk filing system. They are bundling this free with their 3.5" disk drives or it can be purchased for £15 (disk). Both products will be looked at in further detail in a future issue.

Contact: SD Microsystems, 0406 32252

SONIC HANDHELD

You never thought it would happen, did you? Sonic The Hedgehog is now out on those little handheld LCD Video Games. Play it anytime, anywhere and without having to fork out a hundred quid for a Sega console! The LCD video game, retailing at around £20, features Sonic in six different levels. The back-grounds are colourful with the foreground sprites being black making the display look like a half-way house between the GameGear and the Game-Boy. Anyway, the games should be selling out at your local stores now.

P.S. Don't forget the batteries!







SIREN SOFTWARE



HOW TO ORDER:- Credit card orders, please telephone 061 724 7572 with your credit card details or fax them to us on 061 724 4893. Cheques/Postal orders should be sent to Siren Software, Wilton House, Bury Rd, Radcliffe, Manchester, M26 9UR. England. All credit card orders are despatched same day.

ROMDOS XL

ROMDOS *XL* is the ultimate in disc operating systems for the Amstrad CPC computer. Not only does this incredible system offer 800K of disc storage on a 3.5' disc drive WITHOUT the need for any manual side select switches, but it now offers the following features which are all available with a single command!

- YOU DO NOT HAVE TO LOAD ANYTHING FROM DISC FIRST. EVEN FOR FORMATTING OR FILE COPYING.
- Disc formatting options allowing 800K disc space with 128 or 256 directory entries
- File copying from A to B, B to A, A to A or B to B. Single files, all the files on the disc or selected files can be copied simply and easily!
- Single, multiple or batch file Erasing.
- Directory Editor allowing files to be Unerased, Renamed, Erased, Change User Area, Set to Sys, Dir, R/O & R/W.
- Romdos *XL* can be turned off by using the command '|Dosoff' without resetting the computer.
- Filecopying will support all disc formats.
- The only disc operating system to provide full 800K per disc on line under Amsdos & CPM!

Available now with full easy to follow instructions:-

ROMDOS *XL* (must be plugged into a rombox) £29.99

ROMDOS *XL* CARTRIDGE (plugs onto back of computer) £44.99

ROMDOS *XL* & SIX SOCKET ROMBOX (save £5.00) £49.99

Update your existing ROMDOS, RAMDOS or MS800 to ROMDOS *XL*. Please phone!

6128+ owners. The cartridge version is for 464/6128 only.

3.5' DISC DRIVE

Our stylish 3.5' disc drives are the only ones available that will enable you to use 800K per disc without the need to change any manual side select switch.

Other drives on the market will only allow you to access 400K at a time, whereas our superior disc drives come complete with either RAMDOS or the new ROMODS *XL* that allows a full 800K to be accessed even under CPM!

Our disc drives come complete with an external power supply and can easily be connected to another computer by simply changing the connecting lead.

Our disc drives use a topy quality SONY mechanism that is world renowned for reliability and performance.

Included with the disc drive is the power supply cable to connect it to the computer, a full 15 page user manual and a disc of software that includes RAMDOS, a RAMDISC drive program, SECTOR EDITOR, DIRECTORY EDITOR, FAST FORMATTER etc.

The drives are also available with ROMDOS *XL*.

PRICES....

Disc Drive with RAMDOS £74.99

Disc Drive with ROMDOS *XL* cartridge £99.99

Disc Drive with ROMDOS *XL* & Rombox £109.99

Please specify which computer you own when ordering.

PLEASE ADD £5.00 POSTAGE AND PACKING

3' Blank Disc (packet of 10) £17.50

3.5' Blank Discs (packet of 10) £10.00

★ RS232 INTERFACE ★

NEW RS232 Serial Interface will allow you to connect your CPC to a serial printer, Modem or another computer for transferring data. Built in ROM Software features Terminal & Prestel Emulation and UP/DOWNLOAD etc. Please telephone for further details.

AVAILABLE NOW PRICED £59.99 (plus £2.00 P+P)

464/464+ DISC DRIVES

We are now selling the 3.5' disc drive with our own DDI-1 interface. The package includes, 3.5' disc drive, DDI-1 interface, power supply, cable and software.

★ ***FREE* MULTIFACE II** for transferring all your cassette software onto disc. This is the only disc drive that is currently being produced for the 464. Available now priced £159.99 (Plus £5.00 Postage and Packing)

SOUND ADVICE

TEST RUN

Equinoxe versus BooTracker head-to-head in a test of CPC sound programs

UbiSoft's Equinoxe, written by the editor of French magazine Amstrad Cent Pour Cent, Alain Massoumipour, has a challenger for the title of "best CPC music program" in the form of BooTracker, a British program by the strangely named Boo! the Ghost. Which is the better at keeping the neighbours awake at night? All will be revealed...

ENVELOPE HANDLING

EQUINOXE	
BOOTRACKER	

The first thing you have to do with any music program is choose some sounds for use in your program, which involves setting up envelopes - usually a tedious and very laborious process. Three cheers, then, for Equinoxe's envelope routines. Instead of using the standard Amstrad firmware, Equinoxe uses its own system which, as well as volume and tone envelopes, also gives you noise envelopes - great for realistic drum sounds. What's more, the envelopes on Equinoxe are easily edited, using a very smart graphical system which shows you exactly how the sound will change in envelope, tone or noise.

BooTracker sticks with the Amstrad firmware, and as a consequence has a less friendly numerical editor. Generating envelopes by this method is more hassle, as you can't see so easily what will happen, unless you are already used to the ENV and ENT commands (no noise envelopes, I'm afraid). However, there are two redeeming features of this: one is that envelopes you've designed yourself in the past under BASIC (or which you've seen in listings) can be used easily, and the other is that the CPC manual has a remarkably clear explanation of this sort of envelope.





As BooTracker's envelopes are standard firmware ones, they have the same resolution (i.e. the maximum number of volume or tone changes per second) of 100. Equinoxe offers you three alternatives: 25, 50 (useful for demos and other programs synchronised to screen frame flyback), and a staggering 300 - excellent for clear-sounding instruments.

DRUMS

EQUINOXE	
BOOTRACKER	

Equinoxe has its own built-in drumkit, which gives you five pre-defined rhythms to choose from and paste into your own tunes. This is a wonderfully simple way to create a rhythm to go along with your latest megahit. These drum sounds don't use up valuable envelope space, as they have their own reserved envelopes signalled to Equinoxe by a strange "blob" symbol instead of an envelope number. However, it does have the disadvantage that many Equinoxe tunes sound the same (echoes of Stock, Aitken and Waterman) because of using the same rhythm - especially when only the first two rhythms are likely to be useful.

BooTracker offers no such facility. However, in the example files supplied on the disc, there are a large range of drum envelopes. This allows you to use these envelopes in your own music to create a rhythm yourself, without all the hassle of defining the sounds first. In addition, unlike Equinoxe, you can combine (say) drums and bass on one channel without ruining the pre-defined rhythm, as you design it yourself!

SEQUENCE EDITING

EQUINOXE	
BOOTRACKER	

Pros and cons for each one here. Equinoxe has the huge advantage of a two-octave keyboard, which makes entering most tunes less fiddly (unless they are in the key of C, and don't leap about too much), whereas BooTracker only provides the one. However, the keys BooTracker doesn't use for the keyboard are used for quick and easy selection of sequence and octave etc. - a task which requires a window to be called up (by CTRL-S or CTRL-O) and a value altered using cursor keys under Equinoxe.

Equinoxe has another advantage in that its display is scrolling, rather than the flick-

screen method employed by BooTracker. This is quicker and clearer and in some cases, what you want to see might not correspond exactly to what BooTracker will show you! Since BooTracker shows notes in groups of eight, this will be fine for most purposes (which employ 16, 8 or 4 beat blocks).

BooTracker compensates for these two drawbacks by having one highly useful feature not present in Equinoxe. Equinoxe only copes with sequences of a length of 64 beats. This is fine for many tunes, which have units of 4, 8 or 16 beats (usually those with a time signature of 4/4, 2/4, or 2/2), and so an even number will fit into each sequence (which can be used as a "building block").

BooTracker's default sequence length is 64. However, you can cut a sequence short, to a length such as 48 beats. This is mind-bogglingly handy, as it allows you to write tunes in 3/4 or 6/8 time easily (with the basic principle being three beats in a bar, so 3 x 16 fits perfectly in 48: 3 doesn't divide into 64!). All sorts of music, from minuets and waltzes to well-known modern music such as Oxygene 4 (by Jean-Michel Jarre, perhaps the most famous exponent of computer music) fits into this category, and really can't be produced on Equinoxe.

FEATURES COMPARISON TABLE

	EQUINOXE	BOOTRACKER
Contact	Ubisoft 081 343 9055	SD Microsystems 0406 32252
Price	£29.99	£14.95
Number of sequences	20	16
Length of sequences	64 beats	anything up to 64
Drumkit	5 built-in rhythms	envelopes supplied
Envelopes	volume, tone, noise	volume, tone
Envelope design	graphical	standard numerical
Filing options	load, save, CAT	load, save, CAT (stays on screen), drive A/B
Sound access	hardware	firmware
Size of user file(s)	14k	around 8k

EXTRAS

EQUINOXE	★★★★★
BOOTRACKER	★★★

Equinoxe has a whole host of "extra" features. Cut-and-paste features are one very welcome inclusion, which allow you to simply rip one sequence (or a single channel from a sequence) and paste it somewhere else. Especially if you have the same bass line throughout your latest hit, this saves a lot of work, and must be classified as a marvellous addition.

Another nice feature of Equinoxe is the volume bars whenever a note is playing, whether during editing or during playback of a tune. Each of the three channels has a power meter attached to it, which shows the volume of the note currently being produced on that channel. To be honest, this isn't much practical use, but it's good fun to watch.

Both programs come with example files on the disc, Equinoxe's being very "computer musicy" with BooTracker's showing more of a leaning to the Metallica side of things. These are useful as handy sources for envelopes, as well as seeing how a whole song is put together. There isn't much difference between them in terms of quality, although Equinoxe's example envelopes tend to be slightly more imaginative - and hence, probably, less useful!

The other extra worth mentioning is the manual keyboard. Again, both have this feature (although, as in sequence editing, BooTracker's is half the size of Equinoxe's), which is very useful for "doodling" to get a tune. There's really no difference between the two in this respect at all.

FILING

EQUINOXE	★★★
BOOTRACKER	★★★★★

This is one area that lets Equinoxe down. Files can only be saved and loaded from the current drive, and as Equinoxe is a |CPM loader, this means drive A. In addition, although there are catalogue options, the catalogue disappears as soon as you exit the option, making remembering filenames a lot more difficult.

BooTracker offers a catalogue option that remains on the top half of the screen while you are using filing operations. In addition, it has an option to switch between drives, although unfortunately for those of you with large B drives, it's not ROMDOS compatible.

COMPATIBILITY

EQUINOXE	★★★★★
BOOTRACKER	★★★★

Both programs have been carefully thought out when it comes to use of tunes from your own programs. BooTracker files must be "compiled" first of all, which involves creating a different type of music file from the main program. The advantage of this is that space savings can be made, the finished file often being around 8k long.

Equinoxe files are longer: 14k in total, which is a phenomenal amount for a piece of music. (3k music driver, 3k envelopes, and 8k music). However, if your music isn't 16 sequences long, you can save memory by reclaiming the space required for the later sequences. In addition, Equinoxe files don't need compiling, but run on their own as long as the music driver is also supplied.

With both Equinoxe and BooTracker, the main object has been to provide BASIC programmers with a means to get music to run under interrupt (i.e. while other things happen). This is easy on each one, with a simple CALL being what's needed. Equinoxe also offers an option to start at a given sequence, which could be useful for playing various "jingles" (e.g. for "game over") from within a game.

The programs offer varying facilities for the professional machine coder. BooTracker provides an initialisation CALL to set up the pointers, etc. to play a tune, then an address must be called every fiftieth of a second (every frame flyback). With Equinoxe, it's not quite so simple: a few bytes must be patched in the DRIVER.BIN file, which you'll have to work out for yourself. For experienced Z80 programmers, though, this should be no problem whatsoever.

Equinoxe has a major advantage over BooTracker here. To generate sounds, BooTracker uses the "official" firmware, which although legal, services its sounds (e.g. updating volume and tone according to envelopes) by interrupt 100 times per second. This means that, should you want to turn interrupts off (as demo programmers and many game coders do), BooTracker music won't play. Fine for a simple title screen - not so good for your magnum opus of a demo.

Its rival, however, goes straight to the hardware for sound access and misses out the firmware. This means that, even if interrupts are off, provided that the Equinoxe driver is CALLed the right number of times (300) per second, whenever necessary the routine will do whatever is needed itself. This makes it a better choice for demo and really professional game programming.

VERDICT

So, which one to buy? With all the features taken into consideration, Equinoxe slightly has the edge. Its custom envelope handling and extras (such as cut-and-paste) are well worth making use of. There will be some over-riding considerations for some people, though. If you want to produce compositions in 3/4 or 6/8 as well as double and

quadruple times, BooTracker is your only choice. Conversely, demo coders will prefer Equinoxe because of its direct access to the sound chip.

The fact, however, is that even though Equinoxe has a few more facilities, £30 is an incredible amount to pay for a music program - perhaps a truly outstanding one, but Equinoxe couldn't be said to be that. At half the price, BooTracker must be the logical choice for most people to buy, except the really committed.

The final verdict? Wait and see. After having seen the BSC Sound Trakker, it's difficult to recommend either of these as a definite purchase. If you can't wait for the new program, go for whichever of the above takes your fancy. Sound Trakker is undoubtedly a better program than either of the above, but whether it will be marketed at a reasonable price is open to question...

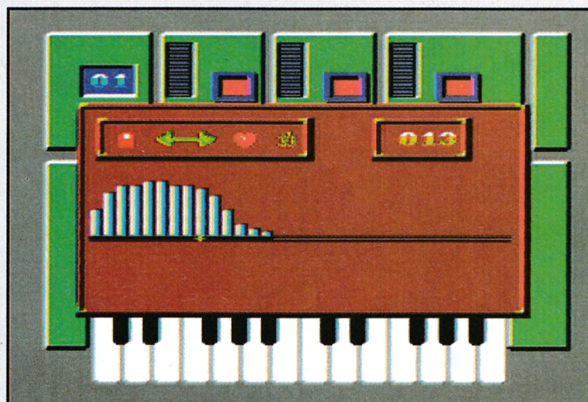
WHAT ELSE IS AVAILABLE?

At the moment, Equinoxe and BooTracker are the only two commercial music programs available. Previous programs (Advanced Music System, Micro Music Creator, Music Box, Electronic Music Studio) have fallen by the wayside, usually as a result of disinterested software houses. None of these were "soundtrackers" in the mould of the above two programs, but rather more traditional programs usually involving the placing of notes on a stave. If this appeals to you, check out CPC Attack! classifieds and see if there are any of the above for sale.

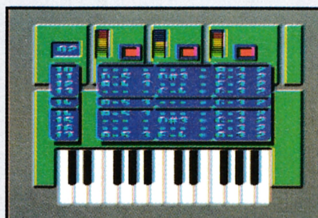
A PD program, SuperSonic, is also available. This is pretty simple (it doesn't have features such as an envelope editor or even sequences) but it's okay for a good tinkle. Serious-ish musicians, though, will look for something else.

And so to the last sound program, one not available quite yet in England (although I hear it may be available soon). Sound Trakker, a utility written by demo coder BSC, is wonderful with a capital W (and, in fact, all the other letters). It has automatic handling for chords on any note, fast scrolling and easy editing of the display, a real-time tune input mode, compiles tunes that can be more easily accessed from your own programs than either of the two above, has the most spectacular set of power meters, etc. The output is simply phenomenal - access to hardware envelopes (another feature missed out by the above two) means that sounds can appear just as professional as those in games. In fact, BSC has ported a few ex-games soundtracks over and, having seen a copy, I can say that they sound exactly like the originals. This program is simply excellent, the best music program available for the CPC: keep your eyes on the news pages for developments about when it appears in Britain and for possible special offers.

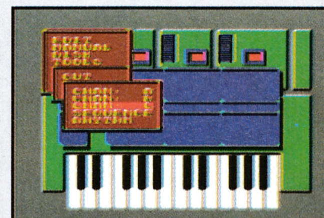
EQUINOXE



Envelopes

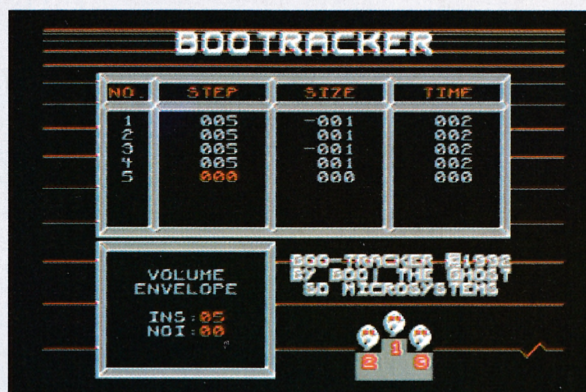


Sequencing



Menu

BOOTRACKER



Envelopes



Editing



Filing

SCORING COMPARISON TABLE

	EQUINOXE	BOOTRACKER
ENVELOPE HANDLING	★★★★	★★★
DRUMS	★★★	★★★
SEQUENCE EDITING	★★★	★★★★
EXTRAS	★★★★★	★★★
FILING	★★★	★★★★★
COMPATIBILITY	★★★★★	★★★★
TOTAL (30 max.)	23	22

MJC COMPUTER SUPPLIES

Suppliers of Discount Software since 1984

HOW TO ORDER:
All prices include VAT & delivery
Please allow 5 days for cheque clearance.
Send cheques or postal orders made payable to:

MJC SUPPLIES (ATT)
Unit 2, The Arches, Icknield Way,
Letchworth, Herts, SG6 1UJ

Or telephone with Access or Visa debit and credit cards on:
0462 - 481166

Overseas Customers: write for quotation
Educational Bodies, Local Authorities, Govt. Departments: send written order
FAX US ON 0462 670301

CF2 DISKS

5 for **£8.95**
10 for **£15.95**
20 for **£29.95**

DESKTOP PUBLISHING

STOP PRESS SOFTWARE
A superb page layout program allowing text and graphics to be printed on the same page. Contains a number of text fonts & clip art. Create leaflets, posters etc.
(CPC6128 or 6128+)
MJC PRICE £34.95

STOP PRESS & AMX MOUSE

STOP PRESS & AMX MOUSE
As above but is supplied complete with the AMX mouse making the program easier and quicker to use.
MJC PRICE £64.95

EXTRA! EXTRA!
Two disks of extra fonts and clip art for use with Stop Press
MJC PRICE £14.95

★★★ SPECIAL OFFER ★★★
STOP PRESS SOFTWARE
PLUS
EXTRA! EXTRA!
ONLY £44.95
or
STOP PRESS & EXTRA EXTRA
PLUS
AMX MOUSE AND INTERFACE
£74.95

CPC AMX MICE & INTERFACE

We now have CPC mice and interfaces back in stock
CPC MOUSE & INTERFACE £34.95
(Plus owners please call)

RIBBONS

Printer	Quantity 1	2	5
DMP 2000-3000	3.00	5.50	12.00
Panasonic KXP1081/1180	3.95	7.00	15.00
Citizen 120D	3.95	7.00	15.00
Star LC-10 Mono	3.95	7.00	15.00
Star LC24-10	4.95	9.00	20.00
Panasonic KXP 1124	3.95	7.00	15.00
Star LC-10 Colour	5.95	11.00	–
Star LC200 Mono	5.50	10.00	–
Star LC200 Colour	10.95	19.95	–
Star LC24-200 Mono	4.95	9.00	–

HEAT TRANSFER RIBBONS

	x1	x2
Citizen 120-D Mono	6.95	13.00
Panasonic 1081/1180 Mono	7.95	15.00
Star LC-10 Mono	6.95	13.00
Star LC-10 Colour	11.95	23.00

COURIER DELIVERY
Available on any order.
Prices start at £3.00
please ask for further details.

SERIOUS DISKS

PROTOTYPE
Arnor's excellent print enhancer – a must for all Protext users (NOT CPM)
MJC PRICE £21.95

Protext 19.95
Prospell 17.95
Promerge 17.95
Matrix Spreadsheet Plus 29.95
Masterfile 3 *(Database)* 29.95
Mastercalc 128 (Spreadsheet) 25.95

COLOURDUMP 3
After a lot of feedback on ColourDump 2, we are now pleased to announce the latest version of the best Colour screen printing program for the CPC range. REQUIRES STAR LC-200 OR COMPATIBLE 9 PIN COLOUR PRINTER. Improved use with Advanced Art Studio. Will automatically read in palette file and set screen mode to ensure your page is the same as your screen. Uses compressed or uncompressed files. Bigger print outs. In addition to the original 13cm x 9cm image, a large print out at approximately 22cm x 15cm is available at single or double density.
Use Multiface screens. A conversion routine is supplied to allow most Multiface screens to be used.
NO OTHER COLOUR SCREEN DUMP OFFERS SO MUCH.
6128 + only
COLOURDUMP 3 £15.95

Stardump 14.95
Stockmarket (share analysis) .... CALL
Money Manager (home accounts) 21.95
Nirvana disk copier 14.95
Maxam Assembler 19.95
Mini Office 2 .... 14.95
Advanced Art Studio (128k) 17.95
Advanced Art Studio & AMX Mouse 49.95

GAMES DISKS

COMPILATIONS
Capcom Collection 17.95
Hollywood Collection 14.95
Max Pack 17.95
Soccer Stars 13.95
Super Heroes 14.95
Super Sega Collection 17.95
T.N.T 2 .... 13.95
Virtual Worlds 15.95
Gary Lineker Collection 10.95

Addams Family 12.95
Battle Command 11.95
Captain Planet 11.95
Collossus Chess 4 .... 6.50
Double Dragon 3 .... 11.95
F16 Combat Pilot 7.95
Gauntlet 3 .... 12.95
Hudson Hawk 11.95
The Jetsons 6.50
Lemmings 15.95
North and South 12.95
Paperboy 2 .... 11.95
Pit Fighter 11.95
Potsworth & Co 6.50
Rodland 11.95
Sim City 12.95
The Simpsons 11.95
Smash TV 11.95
Space Crusade 11.95
Titus The Fox 11.95
WWF Wrestlemania 11.95

EDUCATIONAL DISKS

For more information on the Educational programs ask for the MJC Educational Supplement.

Learn to Read with Prof (age 4-9 years)
Part 1: Prof Plays A New Game 14.95
Part 2: Prof Looks at Words 14.95

LCL SOFTWARE
LCL Primary Maths (3-12) 19.95
LCL Micro Maths (11-GCSE) 19.95
LCL Micro English (8-GCSE) 19.95
LCL Mega Maths (A-level) 19.95

KOSMOS SOFTWARE
French Mistress *12 to adult* 15.59
German Master *12 to adult* 15.95
Spanish Tutor *12 to adult* 15.95
Italian Tutor *12 to adult* 15.95
Answerback Junior Quiz (6-11 yrs)
500 general knowledge questions 10.95
Factfiles *(require Answerback quiz)*
Arithmetic (6-11 years) 7.95
Spelling (6-11 years) 7.95

***NEW!* TRIPLE R SOFTWARE**
Four programs per package
Picture Book (2-5 years) 14.95

Fun School 1 – 10 programs per disk
For 2 to 5 years 6.95
For 5 to 7 years 6.95
For 8 to 12 years 6.95
Fun School 2 – 8 programs per disk
For 2 to 6 years 7.95
For 6 to 8 years 7.95
For 8 to 12 years 7.95
Fun School 3 – 6 programs per disk
For 2 to 5 years 11.95
For 5 to 7 years 11.95
For 7 to 12 years 11.95
New – Fun School 4 – 6 programs per disk
For under 5 years 11.95
For 5 to 7 years 11.95
For 7 to 11 years 11.95

ACCESSORIES

DKT 64k Memory Expansion (464) 39.95
Multiface 2 Plus (for CPC) .... CALL
Multiface 2 Plus (Plus models) .... CALL
8 bit printer port (inc. lead) 24.95
CPC to Parallel printer lead 9.95
CPC Plus to parallel lead 6.95
464 Keyboard-Monitor Ext leads 7.95
6128 Key/Monitor Ext leads 8.95
NEW 6128+ Key/Monitor Ext leads 7.95
FD1 Disc Drive lead (664/6128) 7.95
464/6128 Monitor/keyboard dust covers 7.95
464/6128 Plus dust covers 8.95
(please state exact machine - col/mono)
Quickjoy Python 9.95
Competition Pro 5000 .... 13.95
Topstar Joystick 19.95

CPM BASED

Protext CPM 39.95
At Last Plus 24.95
Supercalc 2 .... 39.95
Hisoft Pascal 80 .... 36.95
Hisoft C Compiler 36.95
Iankey Crash course Typing 18.95
Iankey Two Fingers Typing 18.95

PRINTERS

All prices include cable, ribbon, VAT, postage & packing. courier service available, add £5
FEEL FREE TO CALL FOR ADVICE

9 PIN PRINTERS

STAR LC-20
Star's new replacement for the popular LC-10 is sure to be a winner
£159.95

PANASONIC KXP-1170
Replacement for the very popular KXP-1180. Still Offers 4 NLQ fonts, and last printing. Very good quality text for a 9 pin printer
£159.95

PANASONIC KXP-2180
A new 9 pin colour printer from Panasonic. Offers 7 colours and 6 different fonts. Very good quality printing for a 9 pin printer.
£214.95

STAR LC-200
The latest colour printer from Star. Not only very fast but offers new paper handling features. Best value for money NB: Printing colour graphics requires extra software. Please call before ordering.
£219.95

24 PIN PRINTERS
When printing graphics from 24 pin printers results will be distorted without some extra software. Please call before ordering.

STAR LC24-20
Excellent value budget 24 pin printer offering 5 letter quality fonts and additional effects such as quad size, outline and shadow
£209.95

PANASONIC KXP-1123
Panasonic's entry level 24-pin, giving a better print quality than the Star models, but with 4 LQ fonts and fewer effects.
£219.95

STAR LC24-200
The replacement for the popular LC24-10, with the same 5 letter quality fonts, shadow and outline effects. Much quicker than the 24-10 and has improved paper handling.
£259.95

PANASONIC KXP-1124i
Replacement for the excellent 1124, offering excellent text quality, build quality, paper handling and control panel. Now offers shadow & outline effects, 7 LQ fonts and a new super LQ font.
£279.95

STARJET SJ48 INK JET
A new ink jet printer from Star. Offers excellent print quality plus virtually no noise. Supports Epson 24 pin and IBM emulation.
MJC PRICE £259.95

CASSETTE SOFTWARE

Fun School 3 (2-5) 8.95
Fun School 3 (5-7) 8.95
Fun School 3 (over 7) 8.95
Fun School 4 (2-5) 9.95
Fun School 4 (5-7) 9.95
Fun School 4 (7-11) 9.95
Mini Office 2 .... 9.95
Maxam 464 .... 15.95
Protext 464 .... 15.95
Tasword 464 .... 15.95
Advanced Art Studio (128K) 15.95




Card holders can order now on: 0462 481166




CREATING MUSIC

Writing your own tunes made easy

You have your copy of Equinoxe or BooTracker: you have a game sitting there just begging for a title tune to be added: and you don't know where to start. There are envelopes to design, rhythms to put down, accompaniments to write. Feeling brave? Let's go...

The first thing is to design the envelopes for the sort of tune you want to write. It might seem more logical to design them when you've actually got a tune in your mind, but when you have a melody floating around, the last thing you want to have to do is spend an hour faffing around designing envelopes. So get it out of the way first, and the best place to start is by loading the example envelope files from the disc: "QUICK.BOO" from BooTracker, or any of the envelope files off the B-side of the Equinoxe disc. Test these out using the "Manual" keyboard option of the package, and alter any you're not happy with. As you would if you were learning a new programming language, start by making slight alterations, noting the differences, and going from there. Don't worry about what will happen: if all else fails, simply reload the file!

Once you have a good set of envelopes in memory, the next step is the most difficult of all - writing the tune. For this, find some sort of musical instrument (whether it be a real piano, a synthesiser, or even just the "Manual" option on either of the packages) and simply play around. If you find a riff you like, stick with it, try to expand it into a full-blown tune: and if it doesn't work, no matter, just keep trying. Melodies come easily to only a few people (such as Paul McCartney): for the rest of us it's sheer hard work, but a catchy melody will make the tune more than all the fancy envelopes in the world.

You've now got a tune: DON'T FORGET IT! The next step is to input it into one of the three channels of the sequence. The best way to do this is to silently run the tune through your head while counting a regular beat to yourself, pressing the right notes on the keyboard as the tune "plays", and pressing the key to "move down a line" (e.g. down cursor) every time there is a rest or the last note hasn't finished yet. This can be tricky (especially with Equinoxe, as the key repeat is sometimes too eager), but after a few tries you should get it.

That, of course, is only one channel done. Your CPC has three channels, and the standard arrangement is to place a drum beat (perhaps with a small accompaniment) in one of the remaining channels, and the main accompaniment in the other. I'd recommend working on the drum beat first, as you are less likely to change that than the accompaniment. The accompaniment will probably require a lot of fiddling to sound absolutely right with the melody: watch out for classic musical slip-ups such as consecutive fifths or consecutive octaves (where a note in one channel is playing a fifth or an octave above another, and by the next note they change - but are still the same distance apart) or simply discordant notes.

The drum beat, thankfully, is less difficult: Equinoxe users might like to start off by pasting in one of the five in-built rhythms, and changing it as needed (although you may need to define new envelopes for drum sounds) - you might even find that the rhythm is perfect for your tune without alteration! BooTracker users are better starting off with a really simple drumbeat (say a regular hit every eight beats) and elaborating from there, until you have something really special.

That's the first part of your tune written, then: I won't follow on with a lecture on sonata form, development of themes, etc. because such topics are simply sterile and irrelevant to writing a good tune. If you're going to write an enjoyable piece of music then what flows from your mind is most important - and nothing anyone writes on musical theory is going to alter that. However, with any luck this should have shown you how you can start off with a good tune and harness the power of your package for the best results.

MUSIC HACKING

So, if you can't write music, you can always do what hundreds of other demo programmers have done, and that's use someone else's

Demos are full of music, and so are games. Although you are not allowed by law to distribute hacked music, no-one's going to mind if you do it for your own personal use (but just to make sure, you may need to obtain permission from the copyright owner!).

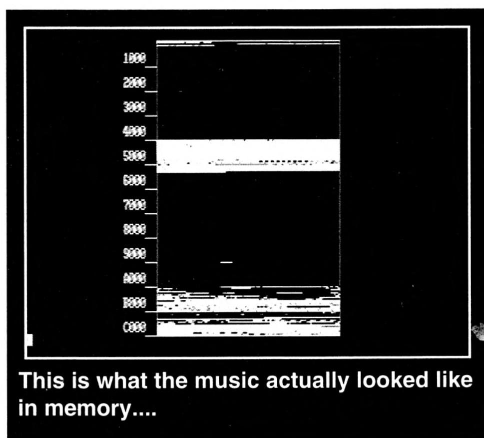
So where to start ? Well, the first thing you WILL need to make your life 110% easier is an aptly named Hackit Interface. This is available from Siren Software, and is what most of the major hackers use for music extraction. A multiface would also be handy at this point. Bearing in mind that most people who are serious about their CPC's have one of these dongles, we shall continue on that premise.

Okay, get your demo (or whatever!) and load it up. Make sure that the music is playing and then switch Hackit on. For reference use the MEMORY command to give you a graphic display of memory. Repetitive patch areas are usually sprite data, but a small patchy area, usually occupying about 5k or so is where the music lies.

Make a provisional note of this address. Most sound routines have a check to see whether they are on or off. This usually involves getting a value from a memory location, and checking to see whether it is 0 or not. If it is then the music is not played, and the routine returns.

```
LD A,(xxxx)          ;3A,xx,xx
                     get the music flag
OR A                 ;A7
                     is it zero ?
JR Z,end_of_routine
                     ;18,offset
                     yes, then return
<<<rest of music player
commands>>>
```

So, you could search for A7,18. If you found the bytes at say, &2000 then try disassembling from &1f00. Somewhere afterwards, you should see the following bytes. This is the Music Routine Jumpblock, and is what the game accesses should it need to either start, stop or play a musical note. The first jump usually resets the tune pointer to the start of the tune. The second jump plays the note, and the third stops the music. The following code is an actual music routine from a top ten game, that was taken out of a demo.


This is what the music actually looked like in memory....

```
&4000 JP  &40D7
          ;INITIALISE music
          player routine
&4003 JP  &417D
          ;PLAY the note
&4006 RST &38
          ;This is a flag for the
          music player routine
&4007 JP  &4011
          ;STOP the note
&400A XOR A
&400B LD  &4006,A
&400E JP  &5182
```

This type of setup is particularly used by J.Dave Rogers, and also John Dunne. If you cannot find these bytes, then it's time to try a different approach. Virtually all music routines use OUT commands, to send data to the AY PSG chip. The ports involved are &f500,&f600 and &f700, ie, ports A B and C of the chip. Use the search facility to search for:

```
OUT (C),C        ;ED,49
   or
OUT (C),A        ;ED,78
```

You should get about 10 occurrences of these byte pairs, some, however, will be ink setting (using ports &7Fxx), or keyboard scanning, using ports A,B and C of the PSG. Disassemble from about &20 bytes before the FOUND address of the bytes. An actual sound player subroutine follows:-

```
53BD LD  BC,&F782
53C0 OUT (C),C
53C2 LD  DE,&C000
53C5 LD  HL,&F680
53C8 RET
53C9 LD  BC,&F40E
53CC OUT (C),C
53CE LD  B,H
53CF OUT (C),D
53D1 OUT (C),E
53D3 RET
53D4 LD  B,&F4
53D6 OUT (C),C
53D8 LD  B,H
53D9 OUT (C),D
53DB OUT (C),E
53DD LD  B,&F4
53DF OUT (C),A
53E1 LD  B,H
53E2 OUT (C),L
53E4 OUT (C),E
53E6 RET
```

Once you have found a sequence of bytes, that look more or less the same as above, you have found the PSG accessing routines. Also bear in mind that because the routines are sending sound data TO the PSG, there should be no IN A,(C) commands. If there are, you are probably looking at at hardware keyboard scan routine.

Okay, the start of the keyboard routine should be approx. &500 bytes from the PSG accessing routines, so start working backwards. Sooner or later you should find the routine jumps as detailed in Fig. 1 above. If you don't, the sound routine may be

```
ISC          EDIT         BASIC        CLS
AT           RSX          PEN          PAPER
ORDER        CALL         MEMORY       HELP
OAD          HEADER       SAVE         COLOURS
DVE          COPY         FILL         DISASSEMBLE
EXTODEC      DECTOHEX     SEARCH       PROM
OFF          BANK         ALTERNATE    OUT
N            CLEAR        RESTORE      POKE
EEK          ASSEMBLE

ACKIT V4.0 (c) SIREN SOFTWARE 1988. WRITTEN BY SIMON COBB
```

Hackitt has an awful lot of commands at your disposal!

in the area that Hackit resets.

There IS a way round this, but it's a little too complicated to go into at the mo. Supposing you have the routines as detailed in Fig. 1, you can assume fairly safely that the music module starts there. To test the theory, try CALLing the note play address (&4003), and you should hear a note from the loudspeaker, bearing in mind that you may need to call it more than once, due to the various types of music modules used. Okay, a note means you've got it! Time to have a cup of coffee, pat yourself on the back, and start the next part of this most excellent crusade: Saving it to disk...

Okay, bearing in mind that most music modules are about 5k long (&1000H), and that the music module is in one continuous block, from where the first Jump is (&4000H) to where the patchy block ends &5000H), save the area of memory to disk. Reset the computer, and type in the following program:

10 MEMORY start_of_your_music-1
20 LOAD"music.ext", start_of_your_music
30 WHILE 1:CALL &BD19:CALL play_the_note:WEND

You should hear the music playing away quite merrily. If it seems slow, then the chances are that it is executed six times a second as opposed to the normal 2. In this case, alter line 30 to read :-

30 WHILE 1:CALL &BD19:FOR loop=1 to 6:CALL play_the_note:NEXT:WEND

The tune should now be okay. It's up to you to get it in your demo now, isn't it!

This area is where the music player jumpblock resides...

```
CKIT V4.00. (c) SIREN SOFTWARE 1988.
ITTEN BY SIMON COBB , G. VINE AND THE SOFTWARE GANGSTER.

IS&5

art address:4000
d  address:
le name(RETURN=NONE):
00  C3 D7 40        JP    &40D7
03  C3 7D 41        JP    &417D
06  FF              RST   &38
07  C3 11 40        JP    &4011
0A  AF              XOR   A
0B  32 06 40        LD    &4006,A
0E  C3 82 51        JP    &5182
11  DD E5           PUSH  IX
13  FD E5           PUSH  IY
15  DD 21 50 58     LD    IX,&5850
19  6F              LD    L,A
1A  5F              LD    E,A
1B  26 00           LD    H,&00
1D  54
```

SPECIAL

We have negotiated a special offer for all our readers who wish to purchase a HACKIT from Siren Software. For a limited time, Siren are offering a discount of £10.00 off the normal retail price of HACKITT. This means that you can pick one up for £25. Just drop Siren a call saying we sent you, and they'll do the rest. Thanx Guys...

OFFER

THE SIREN SOFTWARE INTERVIEW

The past few years have seen a steady decline in the amount of software available for the CPC machines. The same cannot be said, however, for the hardware scene, and now, more than ever an increasing number of hardware gadgets are becoming available.

One of the pioneering companies heading this revolution is Siren Software. Fronted by head honcho and general all round good egg, Simon Cobb, Siren Software are probably most famous for their early tape-to-disk utilities and importing the excellent Discology into Britain, as well as their 3.5" disk drives. They have been with the CPC right from the start.

While Simon was in London for the Computer Show, we kidnapped him, (with the aid of an anglepoise lamp and a slice of the ed's white-hot, home-made dangle-berry pie - banned under the Geneva convention!), and grilled him about Siren's plans for the next year or so...

CPCA: Sit there and spill the beans pal!

SC: "Well, we have a huge range of products being released for the next year or so, where would you like me to start..."

CPCA: What about disk utilities?

SC: "Well, as you know, the ROMDOS disk operating system has been available for about four years at the moment. While it is an excellent operating system, it lacks some of the most fundamental disk operations, such as formatting and copying files etc. After we bought the rights to it, I started work on a new version, ROMDOS XL, which has load of features, such as a disk editor, a formatter, batch file copying between any enhanced and normal disk formats. The program is menu driven, and it was quite a tight squeeze getting it all into the spare space in the ROM."

CPCA: Okay, erm...hows about some serious audio hardware?

SC: "Siren have had the top-selling SOUNDBLASTER for sale for some years now, and we thought it was about time it had a baby brother. The Personal Sound System, as we have called it, is a little box that plugs into your CPC and gives you top quality stereo sound through the supplied headphones. Originally marketed as an Amiga hardware device we have had it specially adapted for the CPC and Plus range.

It doesn't even require batteries, as it takes its power from the 5 volt supply from the monitor itself...It throws out about 1 watt RMS per channel on maximum volume, so if you wanted to I see no reason why you couldn't actually even plug a pair of speakers into the output.

Also soon to be released is our 8-bit hardware sampler. This device will plug into the expansion port of your CPC and provide some 5 seconds of extremely high sampling quality, that'll knock the socks off those rather scratchy software efforts.

REVIEWS

DDI-1 INTERFACE AND 3.5" DISK DRIVE

The prototype was neatly packaged. A length of ribbon cable plugs into the expansion port of the CPC 464/464+, while a 34-way edge connector provides the interface to the disk drive.

Using a 3.5" drive as a first drive is quite a new experience, and you'll probably attempt to insert 3" disks a few times! As the connector is similar to that found on a 664/6128, access to any secondary drive is possible in addition to the 3.5" drive. Virtually any disk drive can be connected to the interface and thus the machine. This includes third party 3" disk drives, and of course 5.25" mechanisms. All that is required is a suitable Power Supply, and the correct data cable.

The package is supplied with a Multiface II, which enables the transfer of most non-multiloader games to 3.5" disk. The whole deal does represent very good value for money, especially as the MFII normally retails for about £45.00!! Mind you, unless you can get a second-hand DDI-1 interface for your CPC then you really have no choice other than to buy this, do you?

ROMDOS XL

The pre-production version was somewhat buggy, but be assured, these errors will not be evident in the shipped version. In order for ROMDOS XL to recognise a NORMAL format B drive, the |DOSOFF command must be used. The original ROMDOS would automatically recognise ALL the standard ROMDOS formats. While not earth-stoppingly important, it is a bit niggly.

The program has a built-in ROMDOS formattor - which is quite fast (and pretty too!), a disk editor - which is actually quite good, and a file copier - very slow and can only cope

Although five seconds may not sound like a long time, bear in mind that most sounds from musical instruments only last for something like half to one second. We may even do a deal, by selling the personal sound system with it."

CPCA: And you're branching into communications, aren't you?

SC: "Quite true. This is a field that has been much neglected recently. Our interface is now finished, and the software is being re-written to provide what will be some of the best communication facilities available under AMSDOS. The original software that was written was not only old, but also under specified, the maximum communication speed being 1200/75, and the new version, which has been specially written for us will be superior in every way. For instance, the software can operate with a suitable modem at up to 2400 bps without character loss, which even good old CP/M has problems with. The original software did 12/75 maximum which in these days is a bit outdated. The interface will cost the same as the old AMSTRAD one, and will take its power from the computer itself. We are also looking into the possibility of an interface/modem bundle, using the renowned SupraModem 2400 and at a price that will rival the cost of the average modem on its own."

CPCA: Pray, tell us what you have in mind for the new Plus machines.

SC: "Well, we have now finished the DDI-1 interface and 3.5" disk drive package and this will retail for about £160.00. What we have done basically is obtained permission from Amstrad to replicate and redesign the old disk interfaces and instead of using the standard Amstrad 3" drives, we are bundling our 3.5" disk drive and power supply with it."

CPCA: But won't this mean that 464 or 464+ owners won't be able to use 3" games on their system, and what about tape to disk utilities?

SC: "No, 464 owners won't be able to use the 3" disks on their system, but I have heard of a company that will transfer even heavily protected games from 3" to 3.5" format, so that takes care of that problem. As far as tape to disk utilities go, any utility that will run on a 464 should run quite happily on a 464+, but obviously the utility will have to be transferred to 3.5" format first. For tape game owners, we are supplying a Multiface II FREE with every DDI-1 interface system sold, so that should take care of the majority of games. We see it as the ideal, all-round solution."

CPCA: Why do 464 users NEED the interface in the first place?

SC: "The interface contains all the electronics that the drive needs to operate. For instance the floppy disk controller, the data separator, and the AMSDOS ROM. On a CPC664 and 6128, the electronics are already built into the computer. Plus the fact, I suppose, that people had no alternative but to buy the official Amstrad Interface until now."

CPCA: And you've got round the problem of disk ROM incompatibility on the Plus models as well?

SC: "Yes, we have produced a box that plugs into the back of the Plus machines, and in effect replaces ROM 7 (The NEW Amsdos ROM with an old version. This means that programs such as DISCOLOGY and ROMDOS will usable on the 6128+ machines."

CPCA: But, the new DDI-1 interface won't let you have a second drive on a 464+ will it?

SC: "Actually that's not something we've tried to be honest." (We'll be looking into that possibility in the near future TEC ED.)

CPCA: As well as having a new lease of life, ROMDOS XL is available now on a cartridge that plugs into the expansion port of the CPC isn't it?.

SC: "Yes, this is for people who consider that buying a ROMBOX just to put ROMDOS in is somewhat over-zealous. The ROMDOS XL cartridge will cost about £45.00, or for an extra £5.00 you could buy the ROMDOS XL & six slot ROMBOARD package. We even offer an XL upgrade service to those owners of RAMDOS, ROMDOS and MS800. What more could you want?"

CPCA: A pay rise and a decent pair of trainers perhaps? Seriously though, why do you think that the CPC has such a strong hardware inclination. After all Amstrad tended to plug it as being a games machine, rather than a serious business machine.

SC: "The Amstrad CPC computers are indeed excellent games machines. As far as 8-bit computers go they are some of the best. If you look at the quality of the games that were available when the CPC first appeared, compared to what's available now, they are technically some of the best 8-bit games available. However, it does seem a case of too little too late. The serious users have now obviously discovered that they wanted more than just stunning games from their computer, and as long as there is a demand for a product then a company will produce it. There are probably more "serious" users with CPCs now than ever before, and that's why we want to do our utmost to promote the hardware side of things. We know the customers want it, and we know our products sell."

CPCA: Well, okay. I guess you can go home now!

---

with files of "around 40k or so". It may not backup some of the games transferred by some tape-to-disk utilities and if given the choice, MAXIDOS on disk would be preferred. ROMDOS XL is too limiting for the average user.

PERSONAL SOUND SYSTEM

Now you can listen to your CPC without the neighbours complaining about the noise. The only gripe about the PSS is that the output is a little too high for the headphones, even at less than half volume. When using speakers, the sound is hoopy and the volume controls become virtually ineffective. A nice product which needs some modifications.

HACKIT

This is an interface that lets you hack into any program, and erm.."modify" it and things like that. It is really designed for the hardened CPC user, and would be VERY useful for borrowing, erm...I mean examining how other programs such as games work.

If you know what you are doing you could remove graphics, soundtracks passwords, etc., from other programs, although it is quite hard to restart programs once they have been broken into.

Virtually all the CPC's memory is left intact for examination, and there is a host of commands to enable hacking through code, such as a disassembler, memory editor, memory graphic dump, and load and save commands.

The software has been upgraded to remove the few very annoying bugs that were present in earlier versions. The only known bug still apparent is the inability of Hackit to disassemble indirect addressing where the A register is concerned. The program should place brackets round the address. In no way does this bug detract from the usefulness of such a device. Altogether a rather specialist dongle, which many hackers/coders couldn't do without, especially now.

WHAT THE HECK IS CP/M



SOME CP/M PROGRAMS

(* requires CP/M Plus)

WORD PROCESSORS

Protext * (Arnor) £59.95
The best all-round CP/M word processor

Newword * (Newstar) £70.50
WordStar 4 compatible allowing interchange with PC files

VDE (Public Domain)
WordStar compatible but only core commands implemented

SPREADSHEETS

Supercalc2 (Computer Associates) £49.95
Forerunner of, and compatible with, Supercalc 5 for PCs

DATABASES

dBASE II (Borland) £70.00
Hard to find but compatible with dBASE II on PCs

ASSEMBLERS

Devpac80 (Hisoft) £49.95
Fully featured CP/M assembler

ZSM (Public Domain)
Good CP/M assembler

LANGUAGES

C (Hisoft) £49.95
Nevada COBOL (Hisoft) £49.95
FORTH (Hisoft) £19.95
FORTRAN (Public Domain)
LISP (Public Domain)
MODULA-2 (Hisoft) £54.95
PASCAL (Hisoft) £49.95
PROLOG (Public Domain)
Small C (Public Domain)

UTILITIES

Knife Plus * (Hisoft) £19.95
Pound per byte the most valuable CP/M Plus program; recovers files from faulty discs; UNERASEs erased programs.

2in1 * (Moonstone) £24.95
Transfers files between 3.5" PC discs and CP/M discs

NSWP (Public Domain)
File management program - invaluable for CP/M 2.2 users .cp3

Crash Course * (Iansyst)
Two-Finger Typing * (Iansyst)
Excellent typing tutors for novices or two-finger typists

COMMUNICATIONS

KERMIT (Public Domain)
ZMP (Public Domain)
ZMODEM (Public Domain)

Want to know why CP/M is available, why it needs a disc drive, why it isn't resident in ROM, and what sort of stuff is available for it?

CP/M is the computer's nervous system - an operating system (OS). Without it, the computer is dead. The OS passes messages between the keyboard, processor and screen and, if you have them, between joystick, mouse, disc drives, printer or modem - in fact, any device connected to the computer. If it gets upset, it pumps out strange messages, such as 'Bad sector' or 'disc error'.

Usually, new computers have their OS in ROM, but when floppy disc drives arrived, a new possibility of having the OS on disc emerged. This had two advantages: firstly, computers could have more than one OS, i.e. AMSDOS and CP/M, and secondly, software houses were able to sell their programs on any computer running a version of the OS for which their program was written.

CP/M allows this by hiding the differences between computers from programs and thus a CP/M program should run on any machine running the CP/M OS. Or rather, it tries to - but keyboards, screens and disc drives have advanced since CP/M was invented; when keyboards did not have function keys or arrow keys, screens could only show text and there were no high capacity disc drives.

CP/M can handle all these new features if you tell it how to use them; if you don't, it may ignore them, throw a tantrum or go into a sulk. You only have to tell CP/M about them once because it can store the information on disc and use it time after time. It can also store different information for different programs.



SO WHY BOTHER WITH CP/M?

Until 1983 CP/M was the 'industry standard' operating system for microcomputers. Many small and medium-sized businesses relied on it for all their computing needs. So, word processors, spreadsheets, databases, accounts, drawing, graphics and statistics packages were all written for use with CP/M.

As PCs began to take over, development of these CP/M programs stopped but, to allow CP/M users to transfer their files to PCs, the PC versions used the same file formats. This is great for file transfer, because as they use the same storage structure, you can still use the same dBASE, Supercalc and WordStar files on the CPC that you use on a PC.

The success of Amstrad's CP/M computers in the `80s led to the development of new CP/M programs like Arnor's Protext and Iansyst's Crash Course which now have PC versions. Hisoft developed completely new CP/M versions of the programming languages C, MODULA and PASCAL.

There are also CP/M versions of FORTRAN, COBOL and LISP along with cross-compilers which will take code written for a CP/M computer and re-compile it for a completely different computer. As with games, commercial CP/M programs are usually between a half and a fifth the cost of programs on other computers that do the same things.

But many CP/M programs never made it to PCs and these, together with programs written by enthusiasts such as KERMIT, SWEEP and VDE, are available in the Public Domain along with games such as ADVENTURE, the first adventure game for computer users.

KERMIT allows file transfer not just between CP/M computers but between mainframe, mini and micro-computers of all types. SWEEP has been updated several times and is available as NSWEEP or NSWP. It is a must for CP/M 2.2 users as it takes all the hard work out of managing discs. VDE is an excellent, WordStar compatible, word processor which also comes in a PC version allowing easy transfer of files between PCs and CP/M computers.

Like your nervous system, CP/M mostly works unseen. But when you need to communicate with it, CP/M likes brevity, because early computers had so little memory to play with. 'A>' means 'I am using drive A and I am ready for your next instruction'. If you enter 'B:', CP/M understands you to mean 'Please use drive B'.

'DIR' means 'Please show the DIRectory of the current drive'; 'ERA example.doc' means 'Please ERAse the file EXAMPLE.DOC from the current drive'.

To run a program, like DISCKIT.COM, you simply enter 'DISCKIT' which CP/M interprets as 'Please run the program DISCKIT.COM on the current drive'.

You can expand these instructions in various ways. 'DIR B:' means 'Please show the DIRectory on drive B'. 'DIR EXAMPLE.DOC' means 'Is EXAMPLE.DOC on the current drive?'. If it is, CP/M will answer 'EXAMPLE.DOC'; otherwise, it will say 'No file'. 'DIR *.DOC' means 'Are there any files ending in DOC on the current drive?' If there are, CP/M will list them for you.

If you enter something CP/M doesn't comprehend, such as 'HELLO', it will reply 'HELLO?', meaning 'I don't understand what you mean by HELLO'.

CP/M can carry out about half a dozen instructions directly but, to economise on memory, it comes with a dozen or more extra instructions held on disc to be loaded as necessary. These include STAT.COM (CP/M 2.2) or SHOW.COM (CP/M Plus) and PIP - the Peripheral Interchange Program. There is no separate COPYing program in CP/M because PIP does it along with the dozens of other things it can do. If CP/M is the computer's nervous system, then PIP is its bloodstream. It allows you to send anything anywhere around the system. But its flexibility coupled with CP/M's brevity of expression can put people off if all they want to do is copy a file.

CP/M 2.2 users may find NSWP more helpful than PIP for copying files as well as for its other functions. Most of the CP/M 2.2 files are provided with CP/M Plus, anyone who has used NSWP will probably prefer to stick with it.

If you are a serious user, a programmer interested in commercial programs at half the price or less of their equivalents on other computers or after cheap Public Domain programs, CP/M has something for you.

WHY TWO VERSIONS?

Strange as it may seem, there are two CPC versions of CP/M. The DDI-1 external 3" disc drive comes with CP/M 2.2 and the CPC6128 with CP/M Plus. When |CPM is executed from BASIC, the CPC reads the first sector from the disc in drive A. If this is a CP/M system format disc, it loads CP/M into memory.

CP/M 2.2 can cope with all the features of the CPC464 including its screen. As this screen is memory-hungry and CP/M 2.2 can only handle 64K, once CP/M 2.2 is loaded free memory drops below 40K. CP/M Plus can handle more than 64K by using 'banked memory'.

The 64K workspace is split into four 16K blocks, each of which can be swapped with any other 16K block in banked memory (another 64K chunk of memory not directly accessed by the processor). Information about the screen, keyboard and disc drives is held in banked memory - the extra 64K on the 6128 - and swapped in and out of the 64K workspace as needed. CP/M Plus only needs 3K to manage all this, leaving 61K for programs.

The extra memory helps in two other ways: when you run a program, CP/M gives up some of its workspace which it has to reload once the program is quit. To do this with CP/M 2.2, a system format disc must be kept in a disc drive all the time. CP/M Plus differs in that it is loaded into banked memory and therefore always reloads the part it needs from banked memory, thus freeing the disc drive.

Similarly, if CP/M is given information about the keyboard, screen and disc drives, version 2.2 stores this information on the system format disc and always looks for it there. Instead, CP/M Plus loads its information from disc to banked memory and then accesses it there. You can modify the contents of banked memory many times. Screen colours and the way the keys operate can be set differently for each program that is executed.

GET WORKING WITH CP/M PLUS

2

we lis... most ...on probl... CP/M to ge... p and running as soon as poss

SETTING UP YOUR SYSTEM

The CPC 6128 was designed with the international market in mind, and as such, comes set up for US users; when CP/M loads, the £ sign will not appear `cos the keyboard isn't set to UK. How do you set it?

CPC users will find PROFILE.ENG on their CP/M 2.2 System Disc and in Chapter 4, Page 3 of the manual the instruction

REN PROFILE.SUB=PROFILE.ENG

RENaming PROFILE.ENG means that, next time you load CP/M PLUS, the £ sign will appear instead of the #. You'll have configured your keyboard!

PLUS users will find the same instruction will throw up a 'No file' warning. Hands up the person who proof-read the Plus manual! The correct instruction for Plus users is

PROFILE.SUB=PROFILE.UK

PLUS users will find two other PROFILE files on their disc and can use CP/M's built-in TYPE command to find out what they hold.

When CP/M PLUS is booted, a check is made of what devices are connected and a screen report displays what the system has found. An Amstrad FD1 disc drive will show up, but most 3.5" drives require a disc to be inserted before it is detected. If CP/M PLUS cannot identify a second drive, it sets up a 'virtual' drive, B, so that the single drive mimics two drives and 'Drive is A:' appears in the bottom right-hand corner of the screen. If a 3.5" drive is connected - but does not show up, press CONTROL-SHIFT-ESC. Check the power supply and make sure there is a disc in the drive before trying |CPM again.

CP/M PLUS then looks for the file PROFILE.SUB and executes any commands in it. All .SUB files contain instructions, but PROFILE.SUB is always executed first because it configures the 'profile' of the computer.

SO HOW DO SETKEYS AFFECT THE COMPUTER?

The keys on the keyboard are not configured in any special way. What appears on the screen, and subsequently in any file, depends on a piece of system software which interprets each keypress. SETKEYS.COM allows this software to be changed so that the screen displays what character is required for each individual keypress.

If you are working with the SYSTEM disk CP/M programs, the instruction

setkeys keys.ccp

makes the CLR and DEL keys work properly and enables the left and right arrow keys to move the cursor along the edit line. So, if you spot a typing error, you can use these keys to go back and correct it.

Other programs use different commands to move the cursor. Amstrad also supplied KEYS.WP which matches the arrow keys to TASWORD and several other word processors. If you use a word processor regularly, change 'setkeys keys.ccp' to 'setkeys keys.wp' in your PROFILE.SUB.

CP/M was invented before arrow keys appeared and it uses CONTROL-A and CONTROL-F to move the cursor left and right, while CONTROL-G and CONTROL-H work like CLR and DEL. Therefore, even if you have the arrow keys set up to suit TASWORD, you can still use CONTROL plus a key to edit an instruction in CP/M. These CONTROL key combinations are set out in Chapter 5 of the manual (Pages 16-17 of the Plus manual/Pages 19-20 of the CPC manual).

SETKEYS.COM can also be

```
A>type profile.uk
setkeys keys.ccp
language 3

A>type profile.fr
setkeys keys.ccp
language 1

A>type profile.sp
setkeys keys.ccp
language 7
```

By using CP/M's resident TYPE command, the commands held in each executable file can be listed

used to make the function keys work as desired or change the keyboard from an English QWERTY keyboard to a German QWERTZ or a French AZERTY keyboard. Of course, the keys don't change - just what appears on the screen when they're pressed!

Many programs can only handle 128 different characters at once. As the 6128 is set up for the US, it uses the first 128 characters (0-127) of the ASCII sequence, in which there is no pound sign or any accented characters. To combat this, the International Standards Organisation agreed 13 other sequences for the first 128 characters. In these, the pound sign and the accented characters replace some of those in the US sequence, referred to as sequence 0.

The 6128s can use any of the first eight ISO 7-bit languages, as they are called: USA (0), French (1), German (2), UK English (3), Danish (4), Swedish (5), Italian (6) and Spanish (7). LANGUAGE followed by a number makes the changes (see Chapter 6, Page 52 of the PLUS manual/Chapter 7, Page 52 of the CPC manual).

So what? Well, your printer almost certainly understands these languages; if you use LANGUAGE 3 in CP/M to get the pound sign on your screen and set your printer to use ISO language 3, the pound sign will be printed as it appears on your screen. Most printers have DIP switches to allow you to select the ISO language on power up.

What if you want to use more than one language in the same document? You cannot show this on screen because most programs can only cope with one language at a time. But you can normally change the language the printer is using by sending 'escape codes', so called because they normally start with the code for the ESC key. Most word processors let you place the codes anywhere in a document. However, some leave blanks in the place where the codes were positioned. In this case, put the codes at the end of a line, or into an otherwise blank line, where they will not mess up the main text. Figure 1, a printout of the text shown in one of the screenshots, uses escape codes to change the language in mid-line. You can see that although the screen cannot display the differences, the output to printer can.

If you do not want to mess about with DIP switches, most programs let you send escape codes to the printer before printout. But, if a program cannot do this, do not despair! SETLST.COM on the CP/M disc will do it for you! Like SETKEYS.COM, SETLST.COM creates a file containing the codes you want sent to the printer. Table 1 gives the codes you will need for UK English.

Four more programs on your CP/M PLUS System disc help to give your computer a better 'profile' - SET24X80.COM, SETSIO.COM, SETDEF.COM and PALETTE.COM. SET24X80 sets up a 24 row by 80 column screen - as opposed to the 25 x 80 screen of the CPC and PLUS. SETSIO (SET Serial Input/Output) sets up a serial interface if you have one connected.

SETDEF allows you to SET certain DEFaults on your computer. Defaults are not something wicked, they are simply what the computer will do if you don't tell it any different. For example, it will always look for files on the current drive, but you can make it search both drives by setting the default with

setdef b:,a:

After listing a screenful of information, such as a directory, the screen will pause and wait for a keypress. You can change this with

setdef [nopage]

The CPC will save temporary files on drive A, but if you have a silicon disc you may wish to save temporary files there using

setdef [temporary=c:]

PALETTE allows the two screen colours to be set to any of 64 shades from 0 (black) to 63 (bright white);

palette 63,0

will give you black text on a white screen;

palette 16,63

will give you white text on a green screen.

PROFILE.SUB needs each program that it accesses to be on the System format disc together with an .EMS file and SUBMIT.COM, which CP/M needs to help it 'run' .SUB files. Part of the process involves the system creating a small temporary file, so a disc containing a .SUB file must not be write-protected and must have at least 1K free to accommodate the temporary file (even if you ask SETDEF to put temporary files on drive C, the first one created for PROFILE.SUB will always be on drive A).

```
When using ISO language 1, the following English characters
¦, {, [, }, ], and \ on the right of the keyboard are
replaced by the French characters ù, é, °, è, §, and ç.
When using ISO language 2, these characters are replaced by
the German characters ö, ä, Ä, ü, Ü, and Ö.
```

The screen may only show one ISO character at a time, so it is impossible to make any sense out of the screen shown. See figure 1 for a printed version of the screen

ADDRESSES

(Look for discounts from mail order outlets)

Arnor, 611 Lincoln Road, Peterborough PE1 3HA

Hisoft, The Old School, Greenfield, Bedford MK45 5DE

Iansyst, United House, North Road, London N7 9DP

Moonstone, Unit 14, Strathclyde Business Centre, Clyde Street, Clydebank G81 1PF

Newstar, Kenwood Nurseries, Waltham Road, Boreham, Chelmsford, Essex CM3 3AX

CPC-Domain: Subscriptions to CPC-Domain, P.O. Box 435, Glasgow, G12 8SG

WACCI: Paul Dwerryhouse, 7 Brunswood Green, Hawarden, Deeside, Clwyd CH5 3JA

Windsor Bulletin Board Users Group, 11 Haslemere Road, Windsor, Berks. SL4 5EF (operates the CP/M & MSDOS Users' Group

TABLE 1: ESCAPE CODES for ISO language 3

	BASIC	DECIMAL	HEX
EPSON	CHR$(27)+CHR$(82)+CHR$(3)	27,82,3	1B 52 03
HEWLETT PACKARD	CHR$(27)+CHR$(40)+CHR$(49)+CHR$(69)	27,40,49,69	1B 28 31 45

NEW

ACF

CERTAINLY NOT A BUDGET WORKSTATION

ONLY £99 +VAT



- Sliding Keyboard Drawer
- Durable Bonded Edging
- Paper Management
- Sliding Printer Shelf
- Height Adjustable Printer Shelf
- Quality Construction
- Lockable Castors
- Side Extension Left/Right
- 12 Months Guarantee
- 30 Day Money Back Guarantee
- British Made

Order Now And Claim Your FREE Side Extension Worth £15.99



Call 052789 3036



Advanced Computer Furniture Ltd, 3 Sambourne Park Sambourne, Nr Redditch, B96 6PE

For a free colour brochure on the complete range please telephone or write

Please send me qty _____ PC Workstations with free side extensions. I wish to pay by ☐ Access - ☐ Visa - ☐ Cheque (enclosed). Please debit £119.00 each (inc VAT & delivery).

Credit Card No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ Expiry Date: ☐☐/☐☐

NAME ______________________ SIGNATURE ______________________

ADDRESS ____

POST CODE ______________________ TEL: ______________________

OR FAX YOUR ORDER THROUGH ON 052789 3046

ATT10



NARCO POLICE

GBH £3.99

SCREENTEST



90% - 100%

There aren't many games around which win the coveted EGA accolade. This award is as prestigious to an Amstrad game as the Oscars are to a movie - and not a lot of people know that!

29	TOTAL RECALL	71%
26	NARCO POLICE	63%
30	ZOIDS	58%
28	NIGHTBREED	54%
32	NARC	51%
30	HIDEOUS	50%

38 POKES, MAPS & TIPS
40 THE ADDAMS FAMILY - THE COMPLETE GUIDE

Possibly the biggest bit of gossip is that STUN Runner has re-entered the full-price charts at number 2, selling at £14.99. This month, you should be able to get hold of the same game on The Hit Squad label at £3.99.

Drug barons in the year 2003 have taken over a small island in the Pacific to build their NPC, Narco Processing Centre, but they have also spent $5 million on security. At least it keeps the insurance payments low!

With one fifth of the world's population now addicted to drugs, the nations' leaders have decided to do something about it (I should hope so too!). Are they about to launch a series of thermo nuclear warheads and nuke the spaced out junkies? Well, not exactly. They've decided that three action men with a few sticks of dynamite and a rocket launcher would do a better job! Oh well, it makes for a bit more plot.

In true futuristic shoot`em-up fashion, you control those three men. Firstly, a choice of weapons must be selected from the shop before deciding in which of the five entrance tunnels to deploy your three men.

After that, it's hang on to your hats `cos it's straight in for the kill. All the action takes place in a jerky 3D maze of tunnels which you run through (lightly jog is a better definition) in Bard's Tale style. Enemies take pot shots at you, though give `em a few bursts of machine gun fire and they're dog meat.

A heavily armoured tank guards the exit to each tunnel, but missiles will soon put paid to its defences. Launching missiles and other extra options such as interchanging between



One laser guided mini-missile and a bullet-proof vest please. And don't forget my Green Shield stamps!



You can run but you can't hide





the three units require keyboard input through your "Personal Intercom Unit". This is where the instructions let the game down as half an hour was spent trying to find the key required to access the PIU! It turns out you must hold down [SHIFT] and type the relevant command and that's not the only error in the instructions!

The graphics are up to the usual excellent Dinamic standard with action taking place in a window in the left of the screen. The right side is devoted to the PIU with Status shown in a very amiable control panel at the top. It would have been neat to see a larger section for the animation, but that would have slowed the action down to an appalling rate.

Unfortunately, the animation is poor because of the screen update time. The tunnel graphics are too detailed and therefore sprites have been slowed down to the speed of the tunnel update. Only a few frames of animation are used for each character which move at a half-way near decent speed.

Despite all this, there is still a strong atmosphere that keeps you waiting for whatever may lie around the next corner. The sound is limited to bangs and beeps, though a tune playing throughout the game would have spoilt the suspense and only slowed the game down even more.

I think Dinamic have tried to do more than the CPC is capable of in this game but this is definitely a commendable attempt.

Amy Sez:
Slow, but lots of atmosphere and all for a good cause!

Would you take a holiday on this little island?
Not unless you were suicidal!











63%

GRAFIX 7 SONIX 7 GAMEPLAY 4 DIFFICULTY 6 54%

NIGHTBREED

Nightbreed, a game for schizophrenics everywhere. Boone, the main character, has been hypnotised by his psychiatrist to make him believe he has committed a series of murders. He has gone to the underground labyrinth of Midan, a place where all sorts of monsters lurk and where all his sins will be forgiven.

Boone is bitten by one of these monster thingies, dies, and reincarnates as Cabal, an evil beast who seem to enjoy killing things. Whilst playing the game, you have the power to interchange between Boone and Cabal both of whom must progress through Midan to collect the 3 keys hidden in it. The gameplay is reminiscent of Barbarian 2 though that was a decent effort!



Once a missile has locked on, there's only one option and that's to run



Snakeman, another original name for the nightbreed

Boone/Cabal must kill anything that breathes by punching, kicking or helping it on its way with any one of the various weapons that can been picked up. Enemies attempt (attempt being the operative word here) to fight back in a number of ways as each different creature has its own speciality.

The trouble is that just when you're getting into the game it stops and proceeds to load the next part, by which time any of what little atmosphere there was has been lost. As far as beat'em-ups go, this is pretty poor with only two fighting moves with rocket lauchers and flamethrowers thrown in. As an adventure game it's also pretty thin on the ground.

That is not to say Nightbreed is not without its good points. It sports a good title tune and some decent spot effects. The graphics are large and well-drawn, but good graphics and sound just don't make a best-selling game.

Amy Sez:
This one has dated too much and is basically a tad nob.

CHECK YOUR HEAD

HIT SQUAD £3.99

TOTAL RECALL

The plot to the film, for those who did or didn't understand it, goes something like this: Arnie, alias Doug Quaid, is bored with his life and decides to take a trip to Mars via a mind implant - a sort of futuristic holiday - and why not? The story gets very complex. It apears that Arnie is not who he thought he was, but is, in fact, Wayne Sleep - a rebel leader.

In between the plot is lots of runnin', jumpin' and killing with a small sequence featuring a "Johnny Cab" which is about all you really need to know for this Ocean film licence.

Total Recall has five levels, though only two of which are any different. Level 1, 3 and 5 are platform games. You play Doug of course, though he doesn't look anything like Arnie as, apparently, Ocean were only allowed to use stills from the film if they wanted to make use of Arnold's picture.

Doug must collect five objects on each level, though there are many traps aimed to stop him. People and robots can be shot and punched though every now and again you will come across a wall of coloured bricks. To remove the wall, the correct switch or pressure pad must be run over, though flicking the switches in the wrong order can result in getting trapped and with only one life to spare it's very frustrating. The graphics on these three levels are blocky but of high quality.

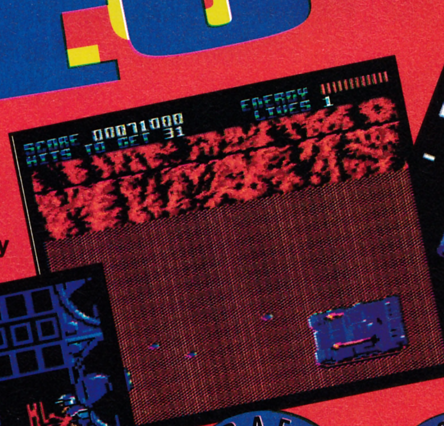
The other style of game is an overhead driving one, the Johnny Cab. The object of this one is not only to avoid the other cars but shoot them all too! These parts are quite easy which is just as well considering the difficulty of the other three.

This is not the easiest of games and definitely not for the easily stressed or impatient. The levels get progressively tougher with a special feature on the final level, because it is set on Mars and you've foolishly left the oxygen supply on the shuttle, your energy keeps draining only to be boosted by picking up the Oxygen molecules scattered around the level. Defiinitely one to keep you awake into the early hours.



HIT SQUAD £3.99

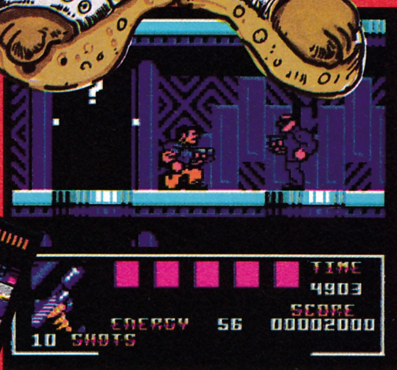
Amy Sez:
Total Recall is a pretty good buy this month. I wouldn't have bought at full price but now on budget it's worth thinking about.



End of level guardian Level 4

"Don't ever insult my acting again"



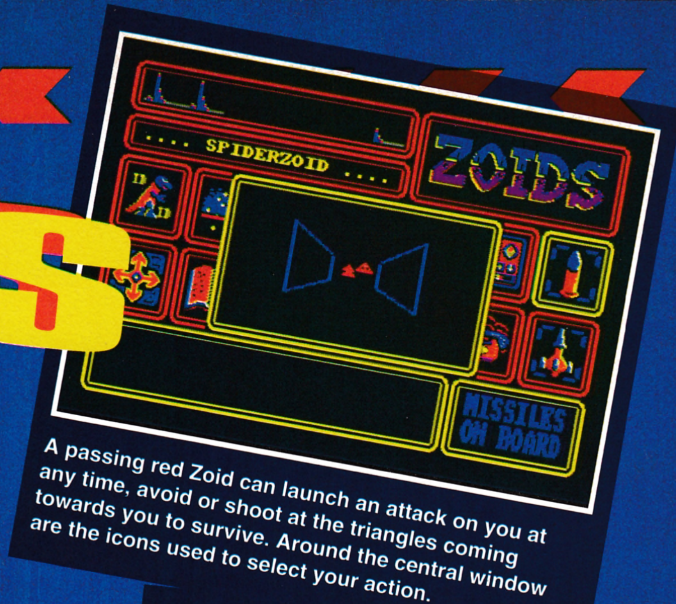


Shoot the skinhead then it's down the lift

Arnie's guide to the M25 traffic problem

GRAFIX	SONIX	GAMEPLAY	DIFFICULTY	
8	8	7	7	71%

ZOIDS



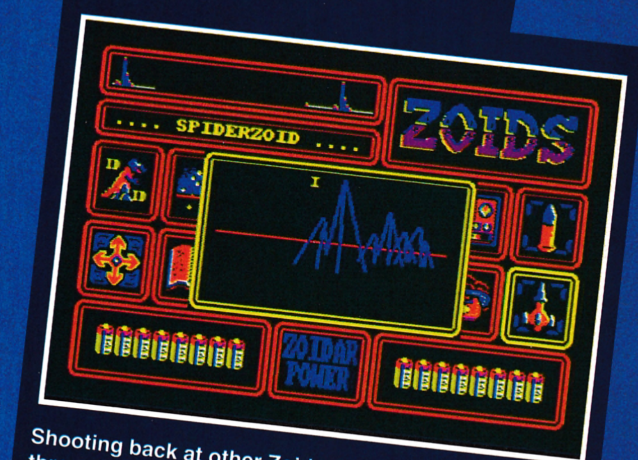
A passing red Zoid can launch an attack on you at any time, avoid or shoot at the triangles coming towards you to survive. Around the central window are the icons used to select your action.

For those who don't remember Zoids they were large clockwork, battery-operated robotic dinosaurs with names like Slitherzoid and Spineback, but Trooperzoid was always my favourite. Enough of my childhood, on with the review.

The Zoidstar is at war, a mighty battle between the blue and red Zoids rages on the planet. The only way the blue Zoids can win is if their leader, Zoidzilla, is put together with the six parts scattered around the city. The game takes place on a main control panel inside a blue zoid, from here various options can be selected by highlighting the relevant action window and clicking on it.

These options can be used for such things as displaying any objects in the area or to attack and defend against other Zoids. In the centre of this screen is a map which is used to select targets by moving a crosshair onto the enemy red Zoids which are represented as red dots. Each can be identified by choosing the appropriate icon.

The first Zoid you'll probably meet is the fast-moving scout, the Hellrunner. This is the smallest of the six red Zoids. This and other red Zoids will launch attack strikes on you - in a 3D tunnel where you can shoot the oncoming bullets. In retaliation you can fire your missiles, by steering them through a 3D vector mountain range until the target is in sight. Not as easy as it sounds. Therein lies the trouble with the game. Though quite a large game, all it really consists of is the attacking and defending stages, both of which are pretty tough. But when you think that this game is six years old it's certainly stood the test of time well.



Shooting back at other Zoids - guide your missile through the mountains. The "I" in the centre indicates where the target will be.



Both from ALTERNATIVE £3.99 (0977 797777)

HIDEOUS

Scientists experimenting with radiation have accidentally mutated all underground life forms which are now intent on taking over the world, so you, of course, must save the planet from certain destruction. (Sounds familiar.)

This is achieved by placing eight pieces of lead around the radioactive source. The lead can be picked up at points around the maze and only one piece can be carried at a time. A lot of going back and forth in your little grey tank is required with all this movement depleting fuel.

Fuel tanks are scattered around then map which must be shot at for extra fuel. Stores of ammunition must also be found and shot at for a top-up. Routes are blocked by lasers which can be turned off by touching a series of switches in the right order. Passcards can also be picked up and open locked doors. In addition to locked doors, there are also plenty of mutants standing in you way. These mutants get stronger as you progress through each level and they finally have the power to shoot back at you.

Each of the four levels has a map of thirty screens which should keep you busy for quite a while, considering the speed of your tank. The graphics look dated and the tank moves too slowly to keep you interested in the game. Sound effects are limited to a few bangs and buzzes with no title tune. There's just not enough gameplay in Hideous to warrant much interest.



The radioactive source is in the centre. Collect eight red pieces of lead and put them in the eight spaces around it.



AVATAR exclusive – MS800 on ROM

ROM PRODUCTS and SERVICES

NEW ROM PROGRAMMING SERVICE

We will put YOUR Basic and machine code programs onto rom for just £5.50

The price includes the eprom. Your programs must be less than 16k and must, or course, be originals. We will not blow any programs that infringe copyrights.
Send your program(s) on disc and please state the CPC model that it is to run on. We also need to know whether or not the inclusion of a downloader is needed.

NEW ROMON/OFF SWITCH £7.95

Connects to the CPC's expansion port. Switches all external roms On or OFF. 464 owners; unfortunately it also turns your disc drive rom off so your drive won't work when the switch is in the OFF position.

EPROM PROGRAMMER £30

Now you can put your favourite machine code and Basic programs onto rom with our powerful programmer. It programs 12¼ and 21 volt, 16k and 8k eproms and is fitted with an 'ejector' socket.
FEATURES: program single byte, block or full eprom; rom to rom copying; rom editing, verifying and blank testing. Fully menu driven. Supplied with utilities that turn Basic and machine code files into rom files and a PD games rom file – ready for you to blow. Rom programs must be layed out in a certain way. Full details of the layout are also included.
BLANK 16k EPROMS £3.50ea. or 5 for £15.00

32k RAMROM £13.95

32k of RAM that thinks it's TWO 16k ROMs. Each 16k can be loaded with, and behave like a rom program as long as the computer is on. Ideal for writing, editing and testing rom programs without the need to blow eproms. To avoid rom clashes, onboard links set each 16k block to your choice of rom Slot. Three switches control the loading, serial parallel rom slots and high/low rom when in parallel mode.
Alternative uses can be made on the 32k of ram but it will NOT operate as a DKtronics ram pack.
"There's a green eyed yellow ramrom to the nor..." *OI* !!!

6128 UPGRADE ROM £24.95

If you own a 464, have a disc drive and 64k ram pack, then all you need is this rom chip to convert your machine to a 6128. Supplied with full fitting instructions of several different fitting methods.

DISC DRIVE PRODUCTS

ABBA SWITCH £12.95

Swaps the internal A and the external B drives around so that the A becomes the B and vice versa. Easily fitted to the 664 or 6128 (not Plus). Works with any external drive. NOTE MS800 is the only high capacity system that recognises and uses its discs in drive A. "So?"

3rd DRIVE SWITCH £12.95

Allows 2 B drives to connect to the 664 or 6128. The switch selects which one will be active. As switching is OK with the computer turned on, the switch allows B to B copying. Suitable for any sizes of B drive.

In the spotlight

DUAL CHANNEL RS232

The HS-S1 dual channel RS232 is virtually the same circuit as the now extinct Pace RS232 since they were designed by the same person. The two main differences between them are that the HS-S1 doesn't have a rom slot on board so rom software must be fitted to a separate romboard and that the HS-S1 has TWO serial ports where the Pace version had one.

The HS-S1 uses the 'legal ' port addresses as set out by the CPC is therefore fully compatible with all CPC comms software except that which was written for the old KDS RS232 which used illegal addresses

We supply the HS-S1with all the comms software you'll need, on disc.

HS-S1 RS232 £39.95

MS800 owners can have the rom version for £5.50. Proof of ownership is needed.

AND THERE'S MORE...

3½"DISCS	10 for £7.50 or 30 for £20.00
6" PRINTER CABLE	£8.00
64k DKtronics RAM PACK	£39.95

3½" DUAL MODE DRIVE

NOW ONLY £79.95 inc. p&p

Includes MS800 disc & rom *FREE!* and 10 discs – *FREE!*

MODE 1 – operates as a standard B drive storing 180k on each side of the disc.

MODE 2 – stores up to 800k per disc when used with MS800, Ramdos, Romdos or Rodos.

Despite what others tell you, NO commercially available 3½" drive needs a SIDE SWITCH to store up to 800k on each disc when used with Ramdos, Romdos or Rodos. We put a side switch on ours as an extra. It allows mode 1 operation (drives without the switch cannot operate in Mode 1) and it allows the use of MS800 which is by far the best high capacity system available – see below.

The drive is ultra quiet, super small (only 1" high plus its little rubber feet) and has an external, off the desk power supply.

Suitable for the 464, 664, 6128 and Plus machines
Please state your computer model when ordering

This drive is NOT suitable as a 1st drive on a 464
This drive must NEVER be given water to drink after midnight – no matter how heartfelt are the pleadings.

NEW DRIVE ADAPTERS NEW

These adapters allow your CPC's external drives to work on other computers. They just plug into your drive's cable – no modifications are needed. They can be left connected to the other computer and the drive moved at will.

CPC – PCW	£11.95
CPC – PC (1512/1640)	£12.95
CPC – ATARI ST	£10.95
CPC – AMIGA	TBA
CPC – other PCs	Please enquire

MISCELLANEOUS

PLUS TO EDGE WIDGET – £8.50

50 way adapter that allows the older CPC peripherals to connect to the newer PLUS machines. Only one adapter is needed – not one for each peripheral. An adapter isn't needed for 3½" disc drives.
"Where there's a will there's a widget"

Hardware and Software too "Wow!"

The BONZO COLLECTION

BONZO SUPER MEDDLER £13.75

Transfers a very large percentage of games from tape to disc. Includes many varieties of Speedlocks. Produces stand-alone transfers. Includes a large database of verified transfers (getting larger all the time).

BONZO BLITZ £13.75

Transfers all known varieties of SPEEDLOCK tapes onto disc, producing stand-alone copies. Very large database of verified transfers.
Includes BONZO'S DOODAH +4 adventure games!

BONZO'S FLASH PACK £9.95

Well over 60 RSX additions to Basic that can be used in your own programs are stand-alone. i.e. Flash Pack does not need to be present to run the programs containing Flash commands!

BONZO'S BIG BATCH £9.95

Fast, flexible DATABASE; superb FOOTBALL POOLS PREDICTOR and SCREEN & SPRITE DESIGNER all rolled into one low cost package.

MAXIDOS £13.75

THE MOST COMPREHENSIVE and EFFECTIVE DISC UTILITY AVAILABLE FOR THE CPC

Fully compatible with Ramdos, Romdos, CPM and Amsdos. COPY files/discs; RESURRECT erased files: VERIFY discs: FAST FORMAT in Amsdos Ramdos/Romdos; CAT includes erased files and can include status, length, etc; IDENTIFY format; change USER AREAS, system, read only files, etc etc etc. OPTIMISER speeds up your disc accesses by up to 50%; FILE MAPPING, SECTOR EDITOR, outputs to the printer . . . . too much!

SPECIAL OFFER

10% DISCOUNT ON ALL SOFTWARE
when buying 2 or more items
The items need not all be software

BONZO NEWSLETTER

S.a.e. to Martin Cossins. 100 Cottingley Approach, Cottingley, Leeds LS11 0HH. for full details.

MS800 disc or rom 9.95 – both 14.95

MS800 is the ONLY high capacity disc system that:– produces stand-alone discs; that is compatible with ALL software; that recognises and uses its high capacity discs in drive A (ABBA switch users, please note); that works on ALL CPCs – including the Plus machines; that doesn't occupy a single byte of computer memory. The single byte that it doesn't occupy is located at...sorry – just joking. but it's true. It doesn't use any memory at all.

Once formatted an MS800 disc carries the information needed to change the CPC to its own format and it does it does it without using any of its storage capacity. You can even send 800K discs full of proggys to your friends *and they can use them!* The MS800 program is needed only for formatting and for copying to/from MS800 discs. Permission is also given to include MS800's COPY utility with MS800 discs when discs are passed to friends.

Since MS800 doesn't use any memory, it is compatible with all software and it is the ONLY one that is. Even awkward programs like Stop Press and Multiface II are catered for by MS800's unique 4 sided disc option.

Choice of formats including CPM; 64 or 128 directory entries; COPY utility (randos/Romdos don't have one) and a BONZO utility to help many transferred games to run from the B drive.
In other words... it's b#★@#y brilliant! So there!

AVATAR

39 CROSSFELL ROAD, LEVERSTOCK GREEN,
HEMEL HEMPSTEAD, HERTS, HP3 8RG
Telephone: 0442 251706

MOST MAJOR CREDIT CARDS ACCEPTED

NARC

HIT SQUAD
£3.99
(128K only)

Anyone feel like some mindless violence? Because that's all there is to Hit Squad's latest re-release, Narc. You play a member of the Narcotics police out to bust a gang of drug dealers and pushers. Of course they don't want to turn themselves in and have sent hundreds of stick men to kill you. Invariably it's the other way round as they tend to walk into your line of fire and before you know it, you've killed another three villians. Not a game for people who feel guilty about exploding some sprites on a screen.

The game takes place over 12 levels, each with different scenery and drug barrons to arrest. The gameplay is much the same on all twelve levels, you stroll along a horizontally scrolling backdrop armed with two machine guns and a rocket launcher gunning down anything that moves, collecting bonuses as you progress.

If it all gets too much, you have a limited number of rockets at your disposal which can blow enemies away, sending their limbs flying (Sick!). As well as the stick men, dogs chase after you as if you've got a bone in your pocket. These dogs seem completely invincible but to kill them you'll need to use the "crouch" button which has you waddling along on your knees at the canine height. A single shot will shrink them to harmless running puppies.

With all this shooting running down your ammo, you'll need to replenish your supplies. Bullets and rockets can be collected by killing gun totters as they leave behind their ammo supply. For an extra bonus, evidence is collected in the same way.

You can make arrests, but more often than not you'll find yourself shooting to kill. Arrests are completed by standing by the criminal for few a few seconds - they fly off into the great beyond. This ain't easy when being shot at. There is a radar, at the top of the screen, which displays where all enemies are within a given area and also shows the exit as it is approached.

Narc starts of very well, the intro sequence is good with interesting, to say the least, title music. You are shown good digitised pictures of the 12 drug dealers and a mention must also be given to the hi-score table. As your name appears, you can watch it being "written" line by line.

Unfortunately from then on it gets worse. It won't be long before you forget there ever was any music as the entire game is played in silence, not even a gunshot and the above average graphics fall to poor blocky graphics with little attempt at shading.

The option of a two player mode is available for you to find a friend who is just as bored as you must have been to load Narc. With the two player mode things get a bit more exciting but not much.

It's a good blast, but it won't keep you captivated for very long. The scrolling is slow and the gameplay monotonous. If you keep your finger on the fire button and keep plodding forward you'll complete it in a few days, but the question is do you really want to complete it?

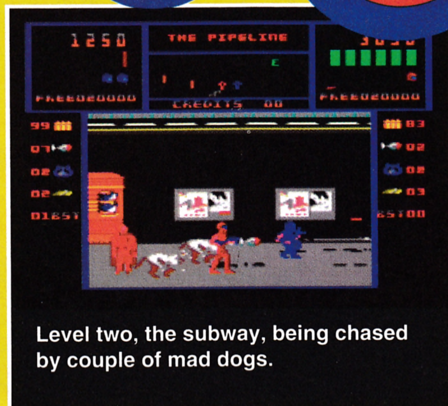


One of the nasty drug dealers you must shoot our arrest, probably shoot.

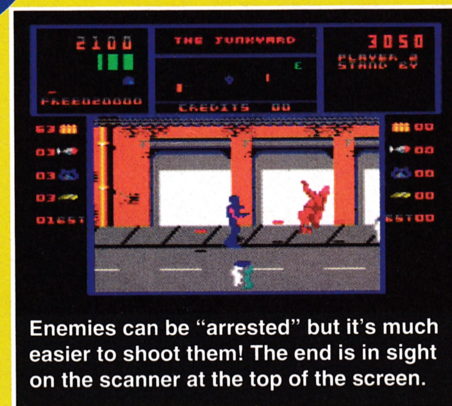
GRAFIX	SONIX	GAMEPLAY	DIFFICULTY	
3	3	4	4	51%



In two player mode you can both play at once and kill twice as much. Player 1 is in blue & Player 2 in red.



Level two, the subway, being chased by couple of mad dogs.



Enemies can be "arrested" but it's much easier to shoot them! The end is in sight on the scanner at the top of the screen.

AMY SEZ: Subscribe NOW to the all-new CPC ATTACK...

...or be prepared to have your butt pumped full of lead!



HOW TO ORDER
Just fill in the order form below and send it with your remittance made payable to HHL Publishing Ltd to: HHL Publishing Subs Dept (PCW), Lazahold Ltd, PO Box 10, Roper Street, Pallion Industrial Estate, Sunderland SR4 6SN.

CPC1092

SUBSCRIPTION FORM

For ease of payment we can offer subscribers a variety of ways to pay, details of which are outlined below

NAME
Mr/Mrs/Miss/Ms....................................
....
(delete as appropriate)
ADDRESS...
....
....
...............POSTCODE...........................

Please send me 12 issues of CPC ATTACK
UK residents-£22.20 for 12 mths
EUROPE Airmail-£35.20 for 12mths.
REST OF WORLD Airmail-£50.70 for 12mths.
1) I enclose a cheque (or postal order) made payable to HHL Publishing Ltd.
2) OR please debit my Access/VISA Card no.

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry date.....................................
Signature...
Date..
3) **ALTERNATIVELY** Access/VISA card holders may order their subscription by calling (091) 510 2290 during working hours. Please ask for the CPC ATTACK Subscription Department and have your card to hand.
4) SHOULD YOU WISH TO PAY BY DIRECT DEBIT Please complete the following details.

Your Bank ☐

Address ☐
Originator's No: 724657

a) Please write the full postal address or your bank branch in the box above.
b) Name of account holder.................
c) Account number ☐☐☐☐☐☐☐☐
Banks may refuse to accept instructions to pay debits from some types of account
d) Sort code ☐☐ ☐☐ ☐☐
e) Your instructions to the bank and signature:

- I instruct you to pay direct debits from my account at the request of Headway, Home and Law Publishing Ltd.
- The amounts are variable and may be debited on various dates.
- I understand that Headway, Home and Law Publishing Ltd may change the amounts and dates only after giving me prior notice

I will inform the bank in writing if I wish to cancel this instuction. I understand that if any direct debit is paid which breaks the terms of this instruction, the bank will make a refund.
Signature...
Date...

CPC Attack!

MEGA SURVEY

ABOUT YOU

1 In which area do you live?
1 ☐ Grampian
2 ☐ Border
3 ☐ Yorkshire
4 ☐ Central
5 ☐ TV South
6 ☐ TSW
7 ☐ Ulster
8 ☐ Granada
9 ☐ STV
10 ☐ Anglia
11 ☐ Tyne Tees
12 ☐ HTV (West)
13 ☐ HTV (Wales)
14 ☐ THAMES
15 ☐ Other (please specify)................................

2 What age are you?
16 ☐ Under 10
17 ☐ 10-14
18 ☐ 15-17
19 ☐ 18-21
20 ☐ 22-35
21 ☐ 36-50
22 ☐ over 50

3 Are you:
23 ☐ Male 24 ☐ Female

4 Are you:
25 ☐ At School
26 ☐ At College
27 ☐ Unemployed
28 ☐ Employed (job title please)
....
29 ☐ Self-Employed (business type please) ....

5 How much do you earn?
30 ☐ Nowt
31 ☐ Under £7,000
32 ☐ £7,001-£10,000
33 ☐ £10,001-£12,000
34 ☐ £12,001-£16,000
35 ☐ £16,001-£20,000
36 ☐ £20,001-£24,000
37 ☐ Over £24,000

6 How much do you spend on software on average each month?
38 ☐ under £10
39 ☐ £10-£19
40 ☐ £20-£29
41 ☐ £30-£50
42 ☐ over £50

7 How much have you spent on hardware during the last year?
43 ☐ under £20
44 ☐ £20-£49
45 ☐ £50-£99
46 ☐ £100-£249
47 ☐ £250-£500
48 ☐ over £500

8 Which interest or activity do you spend the majority of your free time doing?
49 ☐ Using your CPC
50 ☐ Other (please specify)..................................

9 What most influences your decision to buy a magazine?
51 ☐ Cover Price
52 ☐ Cover Gift
53 ☐ Front Cover
54 ☐ Contents
55 ☐ Whatever is available

10 How many copies of CPC Attack! have you read?
56 ☐ 1
57 ☐ 2
58 ☐ 3
59 ☐ 4
60 ☐ All 5

11 How frequently do you intend to buy CPC Attack! in the future?
61 ☐ Through subscription
62 ☐ Every issue
63 ☐ Occasional issues
64 ☐ Never again

12 Please list 2 other computer magazines you read regularly (if any):
1..
....
2..
....

13 Which other types of magazines other than computer magazines do you read regularly (if any):
65 ☐ Sport
66 ☐ Comic/ Humour
67 ☐ Music
68 ☐ Video/Hi-Fi
69 ☐ Youth Culture
70 ☐ Motorcycle/Car
71 ☐ Movie
72 ☐ DIY
73 ☐ Gardening
74 ☐ Puzzle
75 ☐ Lifestyle

14 How many hours per week on average do you use your Amstrad CPC for:

	NONE	up to 2 hrs	3-4 hrs	5+ hrs
Game playing	76 ☐	77 ☐	78 ☐	79 ☐
Adventure game playing	80 ☐	81 ☐	82 ☐	83 ☐
Programming in BASIC	84 ☐	85 ☐	86 ☐	87 ☐
Programming in Assembler	88 ☐	89 ☐	90 ☐	91 ☐
Hardware Projects	92 ☐	93 ☐	94 ☐	95 ☐
Word processing	96 ☐	97 ☐	98 ☐	99 ☐
DeskTop Publishing	100 ☐	101 ☐	102 ☐	103 ☐
Home Organising/ Business	104 ☐	105 ☐	106 ☐	107 ☐
Other (please specify).............	108 ☐	109 ☐	110 ☐	111 ☐

15 Which machine do you own or intend to buy over the next year?

	OWN	WITHIN 3MTHS	WITHIN 6MTHS	WITHIN NEXT YR
CPC464	112☐	113☐	114☐	115☐
CPC664	116☐	117☐	118☐	119☐
CPC6128	120☐	121☐	122☐	123☐
CPC464 PLUS	124☐	125☐	126☐	127☐
CPC6128 PLUS	128☐	129☐	130☐	131☐

16 Do you own or intend to buy any of these products over the next year?

	OWN	WITHIN 3MTHS	WITHIN 6MTHS	WITHIN NEXT YR
128k of memory	132☐	133☐	134☐	135☐
Tape drive	136☐	137☐	138☐	139☐
3" disc drive	140☐	141☐	142☐	143☐
3.5" disk drive	144☐	145☐	146☐	147☐
9-pin PRINTER	148☐	149☐	150☐	151☐
24-pin PRINTER	152☐	153☐	154☐	155☐
MOUSE	156☐	157☐	158☐	159☐
ROMBOX	160☐	161☐	162☐	163☐
Other (please specify)..........	164☐	165☐	166☐	167☐

17 Do you own or intend to buy any other computer or console?

	OWN	WITHIN 3MTHS	WITHIN 6MTHS	WITHIN NEXT YR
IBM PC or compatible	168☐	169☐	170☐	171☐
Apple Macintosh	172☐	173☐	174☐	175☐
Amstrad PCW	176☐	177☐	178☐	179☐
Commodore Amiga	180☐	181☐	182☐	183☐
Atari ST	184☐	185☐	186☐	187☐
Nintendo Super NES	188☐	189☐	190☐	191☐
Sega MegaDrive	192☐	193☐	194☐	195☐
Nintendo NES	196☐	197☐	198☐	199☐
Sega Master System	200☐	201☐	202☐	203☐
Other (please specify)............	204☐	205☐	206☐	207☐

ABOUT CPC ATTACK!

18 How did you rate this and previous issues:

(please leave scores blank for any issue you did not see)

	EXCELLENT	OK	BAD	DIRE
June Issue (1)				
Cover - Lemmings	208☐	209☐	210☐	211☐
Cover Mount - 3D Glasses	212☐	213☐	214☐	215☐
TOP 50 Feature	216☐	217☐	218☐	219☐
General Contents	220☐	221☐	222☐	223☐
July Issue (2)				
Cover - Art Attack!	224☐	225☐	226☐	227☐
Cover Mount - Puzzle Game	228☐	229☐	230☐	231☐
Word Processor Feature	232☐	233☐	234☐	235☐
General Contents	236☐	237☐	238☐	239☐
August Issue (3)				
Cover - Addams Family	240☐	241☐	242☐	243☐
Add-On Guide	244☐	245☐	246☐	247☐
General Contents	248☐	249☐	250☐	251☐
September Issue (4)				
Cover - DTP	252☐	253☐	254☐	255☐
DTP Feature	256☐	257☐	258☐	259☐
General Contents	260☐	261☐	262☐	263☐
October Issue (5)				
Cover - Music	264☐	265☐	266☐	267☐
Music Feature	268☐	269☐	270☐	271☐
CP/M Feature	272☐	273☐	274☐	275☐
General Contents	276☐	277☐	278☐	279☐

19 Have you experienced difficulty in obtaining a copy of CPC Attack! ?

280☐ Always 281☐ Sometimes 282☐ Never

20 Please rate the following features of CPC Attack! and tell us if you'd like more or less - (please try and balance the MOREs with LESSes as you can't have more of everything, and you can't have less of everything)

	RATING	MORE	SAME	LESS
AMY/ARNOLD	___%	283☐	284☐	285☐
COMPETITIONS	___%	286☐	287☐	288☐
NEWS	___%	289☐	290☐	291☐
LETTERS	___%	292☐	293☐	294☐
FEATURES	___%	295☐	296☐	297☐
GAME REVIEWS	___%	298☐	299☐	300☐
GAME CHARTS	___%	301☐	302☐	303☐
GAME TIPS	___%	304☐	305☐	306☐
COMPLETE CONTROL	___%	307☐	308☐	309☐
DEMO TUTORIAL	___%	310☐	311☐	312☐
BASIC TUTORIALS	___%	313☐	314☐	315☐
PROGRAM LISTINGS	___%	316☐	317☐	318☐
PUBLIC SECTOR	___%	319☐	320☐	321☐
THE DUNGEON	___%	322☐	323☐	324☐
POSTERS	___%	325☐	326☐	327☐
Q&A	___%	328☐	329☐	330☐
INTERVIEWS	___%	331☐	332☐	333☐
SPECIAL OFFERS	___%	334☐	335☐	336☐

21 How do you rate the general content of CPC Attack! ?

337☐ Informative
338☐ Lively
339☐ Vague
340☐ Boring
341☐ Just right
342☐ Too technical
343☐ Too gamesy
344☐ Too childish
345☐ Too patronising

22 How many people on average read your copy of CPC Attack! ?

346☐ Only myself (1)
347☐ 2
348☐ more than 2

23 How do you rate the design of CPC Attack! ?

349☐ Too busy
350☐ Too colourful
351☐ Excellent

24 Please give details of any comments you have regarding CPC Attack!

....

....

You are under no obligation to fill in your name and address, however, it would be helpful. Your address will not be used for any other purpose than that concerning CPC Attack! and its products or services.

☐ Please tick here if you do not wish to receive information regarding CPC Attack! and its products and services.

Name...

Address...

.... Tel No ....

CPC Attack! TOP 50

GAME	COMPANY	PRICE -CASSETTE	-DISK	RATING
1 LEMMINGS	PSYGNOSIS	£15.99	£19.99	98%
2 PRINCE OF PERSIA	DOMARK	£10.99	£15.31	97%
3 SMASH TV	OCEAN	£10.99	£15.99	96%
4 RICK DANGEROUS	KIXX	£3.99		95%
5 RAINBOW ISLANDS	HIT SQUAD	£3.99		94%
6 TURRICAN II	KIXX	£3.99		94%
8 CONTINENTAL CIRCUS	TRONIX	£3.99		94%
9 THE ADDAMS FAMILY	OCEAN	£10.99	£15.99	94%
10 NORTH & SOUTH	INFOGRAMES	£9.99	£14.99	93%
11 HUDSON HAWK	OCEAN	£10.99	£15.99	93%
12 TURRICAN	KIXX	£3.99		93%
13 TITUS THE FOX	PALACE	£10.99	£15.99	93%
14 KICK OFF 2	ANCO	£10.99	£16.99	93%
15 STRYKER	CODEMASTERS	£3.99		93%
16 WWF WRESTLEMANIA	OCEAN	£10.99	£15.99	92%
17 G-LOC	US GOLD	£10.99	£15.99	92%
18 F-16 COMBAT PILOT	DIGITAL INT.	£6.99	£10.99	92%
19 RBI BASEBALL	DOMARK	£10.99	£17.99	92%
20 IMPOSSAMOLE	GBH	£3.99		92%
21 IK+	HIT SQUAD	£3.99		92%
22 SPACE CRUSADE	GREMLIN	£10.99	£15.99	91%
23 TERMINATOR 2	OCEAN	£10.99	£15.99	91%
24 PLOTTING	OCEAN	£24.99 (cart)		91%
25 MAN.UNTD EUROPE	KRISALIS	£11.99	£16.99	91%
26 OP.THUNDERBOLT	HIT SQUAD	£3.99		91%
27 POWERDRIFT	HIT SQUAD	£3.99		90%
28 CHASE HQ	HIT SQUAD	£3.99		90%
29 PRO TENNIS TOUR	HIT SQUAD	£3.99		90%
30 HEROES OF THE LANCE	KIXX	£3.99		90%
31 SUPERCARS	GREMLIN	£9.99	£14.99	89%
32 STUNT CAR RACER	KIXX	£3.99		89%
33 CASTLE MASTER	HIT SQUAD	£3.99		89%
34 ROBOCOP 2	OCEAN	£24.99 (cart)		89%
35 PUZZNIC	HIT SQUAD	£3.99		88%
36 LICENCE TO KILL	HIT SQUAD	£3.99		88%
37 BATMAN - THE MOVIE	HIT SQUAD	£3.99		88%
38 NAVY MOVES	HIT SQUAD	£3.99		88%
39 LOTUS ESPRIT TURBO CHALLENGE	GBH	£3.99		88%
40 HERO QUEST	GREMLIN	£9.99	£14.99	88%
41 SHADOW WARRIORS	HIT SQUAD	£3.99		88%
42 SIM CITY	INFOGRAMES	£9.99	£14.99	87%
43 ROBOCOP	HIT SQUAD	£3.99		87%
44 NEW ZEALAND STORY	HIT SQUAD	£3.99		87%
45 DRAGON NINJA	HIT SQUAD	£3.99		87%
46 ESCAPE/ROBOT MONSTERS	HIT SQUAD	£3.99		86%
47 GHOSTBUSTERS II	HIT SQUAD	£3.99		86%
48 OUTRUN EUROPA	US GOLD	£11.99	£16.99	86%
49 GAUNTLET II	KIXX		£4.99	86%
50 BARBARIAN 2	OCEAN	£24.99(cart)		86%

POKES MAPS & TIPS

TIPS

Yo dudes, get a load of this!

SPELLBOUND

Barbara Hedges couldn't get the honey from the bees in Spellbound Dizzy but Christopher Fazey has the answer, take it away Chris: Go across in the mine cart to the mine, up the bridge and pick up the SHAMROCK. Go back up to the top of the mine shaft, drop the SHAMROCK, and take three ROCKS from the quarry and get the SHAMROCK. Go down to the bottom of the mineshaft and jump right into the MAN-EATING PLANT, now find SHAMUS and give him the SHAMROCK in return get the WEIRD TALISMAN, drop one ROCK, go up to the mine cart and drop two more. Go across in the minecart and drop into the water, jump quickly past the beast and jump right onto the mushroom in the water. Pick up the SCUBA GEAR (Take note Hakon Jokulsson). Go back left till you get back to the minecart track and drop the WEIRD TALISMAN. Go to the whale and go across on him. Get into the water and keep going down until you reach the SOGGY STICK, pick it up. Go to the quarry drop the SCUBA GEAR and get two ROCKS, go down the mine shaft to where DYLAN is and put the SOGGY STICK in the fire. Go back up the mine shaft,with the STICK and get the SCUBA GEAR, drop the STICK. Go across the hole and drop the SCUBA GEAR, get three rocks, get the SCUBA GEAR and go down to the MAN EATING PLANT. Go underneath and drop three ROCKS, get the umbrella and go to the bear. Get the EMPTY JAR, get the STICK, go past the rain clouds to the bees and put the JAR under the hive, and fill it with HONEY. Phew!!

TERMINATOR 2

from Paul Cargill

During combat rounds (levels 1,4 and 7), the quickest way to deplace the T-1000's energy is to 'KNEE' it. Don't pause, as this will give it time to recover. Keep kneeing into him. Once he dissolves move as close as you can to the puddle and as soon as he reforms, repeat the procedure. Keep repeating. (Ouch!!!)

SPITTING IMAGE

from Paul Cargill

Choose Ronald Reagan. While playing, avoid the enemy and keep using your sidekick. Once his/her energy is at the bottom, you'll have to deliver the killing blow. Use your special move and you'll have no trouble.

TURRICAN

anon.

On level 1.1 go as far left as you can and jump up. A 1up will fall down. Collect this for an extra life and infinite credits/continues.

On level 3.1, turn to your right and press fire. A rocket pack will appear and instead of just walking into it, turn into a gyroscope and spin into it. You will then return to normal proceed upwards, but don't touch the joystick as you move automatically and your energy doesn't go down. If you do touch the joystick you'll lose the power although you can use the fire button at any time.

SHADOW WARRIORS

from Paul Cargill

The level one guardian is easy to defeat. Manoeuvre him to the edge of the pit and jump over his head to land on the other side. Use the triple-blow combination and he should get knocked over the edge.

The level two guardians are more dfficult. The only move that hurts them is the flying-neck throw.

SIM CITY

from Alan Holloway

Format a disk using SimFormat. Once this is done, load "nofile" and you should get so much money that you have no need for it.



Remember, send your mail to:
AMY'S PM&T,
CPC ATTACK!,
HHL Publishing,
Greater London House,
Hampstead Road,
London NW1 7QQ
or fax: 071-387 9518

CORRESPONDENCE



SPELLBOUND DIZZY [OC1]
Spellbound Dizzy is proving to be a bit of a challenge for everyone. Hakon Jokulsson of Iceland asks, "Is there anyway to breathe underwater and how do you remove the bump in the mining tracks?" and 9 year-old Christopher Fazey wants to know how to rescue Dylan.

TUSKER [OC2]
David Morris can't get off level 1 of this game, "I'm sure I'm doing something wrong but what?"

DRAGON SPIRIT [OC3]
This is also eluding David - "After level 3 I keep getting killed," he cries.

RAINBOW ISLANDS [OC4]
Ashley Martin keeps dying on Monster Island. He pleads, "Is there a cheat for infinite lives or level selector on the tape version?"



We're having loads'a'response to the requests but we still need pokes for SORCERY [AU2] and GHOULS & GHOSTS [AU3].

GARFIELD [AU1]
A couple of people have sent in complete solutions to this game but as it was printed a few months ago in another magazine I won't repeat it, though Poking 1EAC with 00 on your multiface should give Garfield a bout of insomnia (Thank you, Stuart Joplin of Brighton) and according to Martin Cossins to skip screens hold down the keys that you've already defined for up, down, left, right and fire. Then by pressing the decimal point on the function keypad you can move right a screen and f0 to move left.

IMPOSSAMOLE [AU4]
Pause the game at any time and old down the keys M,O,L,E and H to replenish your energy.

WARNING
A number of cheats have been sent which have been blatantly ripped out of other magazines. I realise that two people will find the same keypress cheat in a game, but when they all come from the same issue of another mag and are written in the order they were printed you will be found out!
Take note Douglas Kerr and others. So if you're going to send any cheats in please make them your own and please make them original. Thanks.

MULTIFACE POKES

This month's selection is supplied by Somerset's Graham Smith and will work on tape games only.

Jonny Quest	77D1	00	Infinite
	87A0	00	energy
Super Seymour	35CA	00	Infinite
	35D1	00	lives
	35D2	00	
Crossfire	0D1F	00	Infinite
	1683	00	lives
Crack up	1233	18	Infinite
	1234	02	lives
Spooky Castle	090A	00	Infinite lives
Superkid	147D	00	Infinite lives
Skatin' USA	4976	00	Infinite energy
	4BD3	00	Infinite ammo
Snowball in hell	0D56	A7	Infinite
	101A	A7	lives
Outlaw	1AF2	00	Infinite lives
	1B38	FF	Longer
	2014	FF	Shield time
Dizzy & Prince of	1860	00	Infinite
the Yolk Folk	1861	00	lives
Spellbound Dizzy	BC52	00	Infinite lives
Live & Let Die	7495	00	Infinite missiles
	7401	00	Infinite
	7402	00	fuel
The Spy who Loved me	0EFD	63	99 lives
Hobgoblin	1234	00	Infinite lives
Nightgunner	0EED	C9	Infinite
	685F	0A	10 Lives
Sharkey's Moll	04A4	18	Infinite
	04A5	01	lives
Havoc	AF6E	00	Infinite lives
Superted	09F3	00	Infinite lives
Great Guardians	0AB1	00	Infinite lives
Cavemania	1FD6	00	Infinite lives
Gemini Wing	443B	00	Infinite lives
Double Dragon	4CEB	00	Infinite lives
Vigilante	5816	00	Infinite lives
Prince of Persia	235A	00	Infinite
	935A	00	time
Soccer Pinball	2B5C	00	Infinite balls

THE CARTOON COLLECTION



thanks to Hakon Jokulsson of Iceland & Graham Smith of Somerset

Dizzy	9539	00	Infinite lives
Slightly Magic	40F1	00	Infinite lives
Spike in Transylvania	1691	00	Infinite lives
Seymour goes to Hollywood	61C8	00	Infinite lives
Little Puff	Hold down MAXBEND< then use [SHIFT] and the cursor keys to skip screens.		

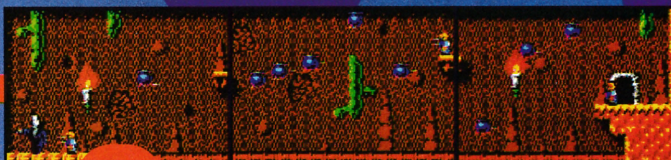
Martin Cossins has asked me to give his database of almost 200 cheats a mention. If you would like a copy of this list then he'll copy it onto a 3" disc for free or will supply a photo copy for a "modest cost". Write to Martin Cossins, 100 Cottingley Approach, Cottingley, Leeds, Yorkshire, LS11 OHH





Run from the platform above to fall







6

RESCUING MORTICIA This should be the final screen if you've followed this guide properly and in comparison to the 150 you've just played this will seem a breeze. The ground is marsh so don't stand on it for too long or you'll get that sinking feeling. So just keep bashing that fire button for a minute and don't hit the lightning. Try to stay in the centre of the screen so you have time to see the light come towards you.







RED KEY







2

RESCUING PUGSLEY At the start there will only be one purple nasty to avoid but a second will arrive. The best thing to do here is to time jumps so that you not only jump the creature but the flowers pellet too; again do running jumps and only jump over a creature when it is running towards, not away from you. Another way is to stay at the far right of the screen, jumping over anything coming towards you.



TURN TO NEXT PAGE

START

THE ADDAMS FAMILY

Jump from cauldron to cauldron toward the far left

Let the cauldron ferry you across the spikes

GREEN KEY

GENERAL HINTS'N'TIPS

- You'll need infinite lives, and luckily we have a Multiface poke. Poke &12FA with &C3
- Complete the rescue from 1 LURCH to 6 MORTICIA.
- To jump long and high jumps you may need to bounce from a creature's head.
- Anything that moves can be killed except the purple ones and fish; skull can only temporarily disposed of. The spinning devils can only be jumped on when still, do not attempt to kill them otherwise.
- Remember, water doesn't harm you like in most games.
- When trying to bump off the killer astro-turf, jump when its spikes are up so you land on it when they're down.

TURN TO NEXT PAGE

TURN TO NEXT PAGE

FROM PREVIOUS PAGE

FROM PREVIOUS PAGE





1

RESCUING LURCH The first but probably one of the hardest survival tests. You must jump over the spike ball in the centre as you are moved towards it on the cauldrons. Stand on the edge of the cauldrons, away from the star and as you get closer take a running jump over it as you cover a greater distance this way, though be careful you don't jump too far and miss the cauldrons on the other side.

PURPLE KEY













Jump on the ghost to get across





5

RESCUING WEDNESDAY The test is the same as Pugsley's test except you have the added difficulty of the slippery ice. So make sure when you do a running jump over the obstacles you don't go sliding into the spitting flower.

4

RESCUING THING Much like Pugsley survival, test jumps should be timed so that you're jumping over the blue lightning as well as the skull. The skulls can be temporarily killed but make sure you're not standing on them as they get back up. You'll get a big hand if you rescue Thing (Groan! - sorry couldn't resist it)











You can jump from the wall to the door. Don't bother with the cauldron

BLUE KEY



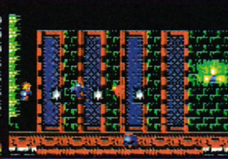
Use the birds as stepping stones

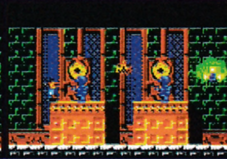












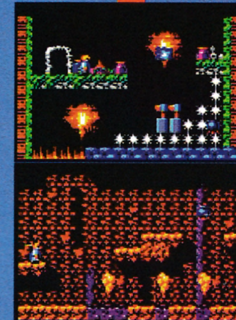


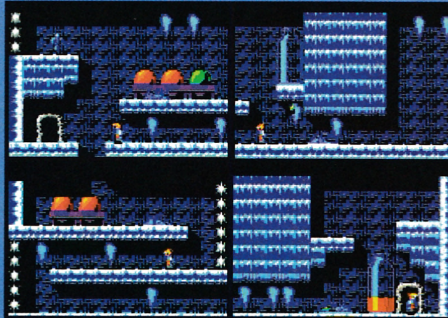
FROM PREVIOUS PAGE











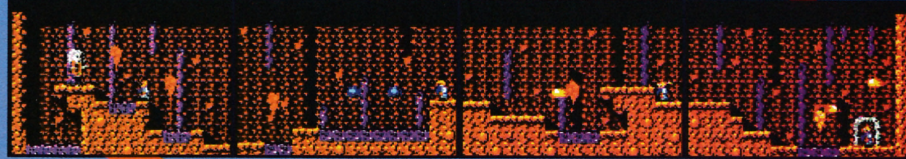




On the way back jump across when the fire ball and smoke drop

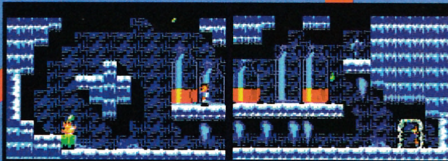
WHITE KEY







3 RESCUING GRANNY One of the easier ones here - luckily the skulls come in order, two slow ones then a fast; the slows are the same space apart as a jump so the trick is to jump from slow skull to slow skull but should you not quite make it, the faster will be there to catch you. Your jumps should be timed so you land just as the fast skull overtakes the slower therefore giving you a greater area to land.

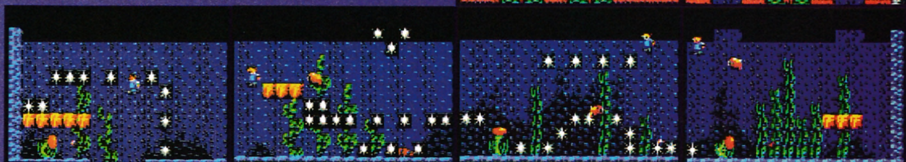






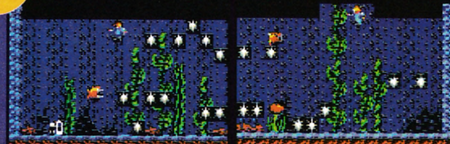






YELLOW KEY





IT'S DEMO TIME

MACHINE CODE TUTORIAL

The mysteries of the CRTC chip revealed...

Inside your CPC there is an array of dedicated chips which handle all the things that make the Amstrad what it is. There's the multi-purpose Video Gate Array, the sound generator chip (which also handles the keyboard), the general interfacing PPI chip, and - the one we're going to look at this month - the CRTC, or Cathode Ray Tube Controller.

The CRTC - chip model 6845 - can be used by the demo coder to generate all sorts of weird and wacky effects on screen, as it controls how the image on the monitor is displayed and formatted. Surprisingly enough, it's one of the least understood chips on the CPC, despite its many functions. After reading this month's article together with next month's, you will be ready to create serious mayhem on your screen.

To start off with, a note about compatibility. One 6128 may look very similar to another, but beware: the contents may well differ. There are no less than seven models of CRTC in circulation, each with a subtly different performance: when Amstrad exhausted one maker's stocks of the chip, in order to keep up demand for the CPC, they had to go elsewhere for their supplies. This has meant that there are chips from Hitachi (or HD, known in the demo scene as Type 0), NEC (UM, Type 1), Motorola (MC - two types, the more common of which is Type 2), as well as two variants of Amstrad's custom chip, the ASIC, in the CPC Plus range (which emulates the CRTC), and even one type of ASIC in a few plain vanilla CPCs.

Why am I telling you this? In the past, problems have arisen when demos, pushing the CRTC to its limits, have exceeded the capabilities of a certain type of CRTC. For example, the legendary KKB First demo will work on Type 0 (the best CRTC to have!) and Type 2 equipped machines, but not on Type 1. Some of the differences will be explained below.

The CRTC has 18 internal registers, each of which controls a particular function. Setting the value of a register is very easy: you simply send the number of the register to port &BC00 (in actual fact, you can send it to any port in the range &BC00 to &BCFF), followed by the value you want to set to port &BD00 (again, anything to &BDFF). A few registers are useless in general CPC work (for example, those which deal with light pens and with a hardware-generated cursor).

Problems arise when you want to read the contents of a register, as this is one area where CRTCs differ. As well as ports &BC00 and &BD00, the CRTC also has ports &BE00 and &BF00. How these ports work varies according to which CRTC you have: you cannot read registers on



Type 1 or Type 2 CRTCs, and even with Type 0 you can only read a few using &BF00. In addition, some CRTCs have a status port at &BE00. Confused? Don't worry - it's not important to everyday use. However, it does offer you the opportunity to detect if your CRTC is Type 0 or another type, by trying to read a register and checking the result.

Over the next two months, I'll be going through all the CRTC registers and explaining how they function, with next month's code demonstrating the use of these registers. In addition, when you know about the CRTC, all sorts of techniques become open to you - including "splitting", a highly impressive technique which will be explained later in the series! It seems logical to start with the first CRTC register, so I will do just that...

THE CODE

```
org &4000
ld bc,&BC0C              ;Using port &BCxx,
out (c),c                ;select CRTC register 12
ld bc,&BF00              ;Using port &BFxx,
in a,(c)                 ;try to read its value
ld hl,type0              ;(Assume type 0 to start off with)
cp 48                    ;Have we got the correct value?
jr z,typeok              ;If so, the assumption is correct
ld hl,type1              ;else assume not type 0!
psloop:  ld a,(hl)       ;A simple string print routine
or a: ret z
call &BB5A
inc hl
r psloop
type0:   db "Type 0 CRTC",0          ;The text for type 0
type1:   db "Not type 0 CRTC",0      ;and for other CRTCs
```

Register 0: Horizontal Total (usual value 63)

...unfortunately, it's one of the least useful ones! This register determines how wide the screen is, in total. As the Amstrad and monitor combination are designed for a certain size of screen, there's not much point changing this, and in fact any values not close to 63 will cause the screen to mess up spectacularly. Values such as 62 move the screen left or right, but cause a high-pitched noise to come out of the monitor.

Register 1: Horizontal Displayed (usual value 40)

This register is much more useful: it controls the number of columns on the screen (in MODE 1 characters). By changing this register and a few others, it is possible to get, for example, a wide but shallow screen. Remember that the width multiplied by the height should not exceed 1024: any more, and the computer runs out of memory in which to store the screen (16k), and starts displaying things twice. There is a way to prevent this, which we'll deal with later...! Just to experiment with this register, try changing the border colour to something different, then set this register to 45 (just as an example): from BASIC, OUT &BC00,1: OUT &BD00,45 . You should see a noticeable difference!

One of the rules of the CRTC states that you should never set this value above the value in register 0: after all, it would be ludicrous to tell the computer that the screen had more columns than the total width of the displayed area on the monitor. One of the rules of demo writing states that you throw accepted programming conventions out of the window. A very interesting effect, then, can be obtained by setting this register to a high value (e.g. 64): one line is repeated all the way down the screen. This has been used in some demos (e.g. the Logon System and Malibu co-production "Amazing Demo") complete with rasters to produce a very impressive scrolling message. However, be warned. The line that is repeated varies amongst CRTCs, and you're advised to test your demo out on a few CPCs if you intend to use this trick.

Register 2: Horizontal Sync Position (usual value 46)

"Horizontal Sync Position"? Anyone with any clues as to what that means? Don't worry, the actual function of this register is much clearer: it controls the horizontal position of the screen on the monitor. This means that you can move the screen (i.e. excluding border) left, by setting it to a higher value (e.g. 49), make the screen wider (using register 1) and have a full-width screen.

A compatibility problem crops up with this register. Although most CRTCs are happy with any value you care to feed in, the Motorola type (type 2) crashes the machine if you send a value above 49. This leads to a problem if you want to completely eliminate the border on the left of the screen. There is a solution, though...

Register 3: Sync Width (usual value 142)

...which is to set register 3, normally 142 (&8E), to 133 (&85). When this is done (moving the screen a slight way to the right), any CRTC will let you move the screen to the left of the monitor. Although this register is also meant to affect the vertical position of the screen, this doesn't happen on the CPC's hardware arrangement, to the effect that a value from 0 to 15 will do exactly the same as one from 16 to 31, 240 to 255, etc.

Register 4: Vertical Total (usual value 38)

In the same way that register 0 takes account of the horizontal size of the whole screen, this is used to deal with its total height. As such, it's not that much use in simple applications. However, it is used for the "splitting" technique (having more than one "screen" on the monitor at once), which will be explained later in this series.

Register 5: Vertical Total Adjust (usual value 0)

You may have noticed, when playing with registers 0 and 4, that these "Total" registers can be used to a certain extent in moving the screen. Although this isn't so useful (bearing in mind that there are other registers to do this more effectively), it brings to mind a possibility for this register - the "fine tuning" for the vertical total. By setting this to values between 0 and 7, it is possible to get the screen to move up or down the monitor by one pixel line. This would therefore be the ideal way to do smooth, pixel-perfect hardware vertical scrolling.

Register 6: Vertical Displayed (usual value 25)

A nice simple register, this one: all it does is control the number of lines on the screen (in characters). This means that, for example, if you have a 48 column screen, the maximum number of lines you can have is 21 (because 1024 divided by 48 is just over 21), so you would output 21 to this register to avoid the top half of the screen repeating itself.

So far, that's seven registers explained: we'll be explaining the remaining seven registers next month, together with an example of how to program "overscan" screens (i.e. no border!). Until then, have fun experimenting with the CRTC, and do send your demos into Attack! for more fame than you ever dreamed possible (well, almost)...

CRTC's DEMO TIME, CPC ATTACK!, HHL Publishing, Greater London House, London NW1 7QQ or fax 071-387 9518.

O.J. SOFTWARE

FAST FRIENDLY SERVICE

ADVENTURE

	CASS	DISC
Acheton		£11.95
Avon (With Murdac)		£11.95
Bards Tale Hint Book		£5.95
Countdown To Doom		£11.95
Giant Killer (Maths Adv)		£15.95
Hero Quest Ret/ WLord	£10.95	£14.95
Kingdom Of Hamil		£11.95
Lancelot (128K)		£15.95
Last Days Of Doom		£11.95
Philosophers Quest		£11.95
Pirates (6128 only)		£15.95
Return To Doom		£11.95
Time & Magic (128K)		£11.95
Tolkein Trilogy	£10.95	£14.95
War Middle Earth		£11.95

ARCADE

	CASS	DISC
Addams Family		£14.95
Alien Storm	£9.95	£13.95
Battle Command		£12.95
Captain Planet	£9.50	£13.95
Cisco Heat	£9.50	£12.95
Double Dragon III	£9.95	£12.95
Final Fight	£9.95	£13.95
F16 Combat Pilot	£3.75	£8.95
Gauntlet III 128K		£13.95
Jetsons	£6.95	£7.95
Lemmings	£12.95	£15.95
Mercs	£9.95	£13.95
North & South		£13.95
Outrun Europa	£9.95	£13.95
Paperboy II	£9.50	£12.95
Pit Fighter	£9.50	£14.95
Potsworth & Co	£6.95	£7.95
Robozone	£9.50	£12.95
Rodland	£9.95	£12.95
Sim City	£10.95	£14.95
Simpsons	£9.50	£12.95
Smash T.V.	£9.50	£12.95
Space Crusade	£9.50	£12.95
Space Gun		£12.95
Super Space Invader	£9.50	£14.95
Terminator II		£13.95
Titus The Fox		£12.95
WWF Wrestlemania	£10.95	£12.95

DISC SPECIALS

Super Off Road	£6.99
New York Warriors	£6.99
Fists of Fury	£9.99

CASSETTE SPECIALS

(Below 99p Min Order 4 Tapes)

Roland in Time	Soul of Robot
Roland in Caves	Feud
Roland on Ropes	Colony
Hamer Attack	Bridge It
Galactic Plague	Sultan Maze
Doors of Doom	Quabbalah
Xanagrams	Nonterageous

(Below £1.99 Min Order 2 Tapes)

Trivial Pursuit	Scalextric
Monopoly	4x4 Off Road
Cluedo	Timeman I
Animal Veg Mineral	Cavemania

PLEASE GIVE ALTERNATIVES.

COMPILATIONS

	CASS	DISC
AIR SEA SUPREMACY: Gunship, F15, P47, Silent Service	£15.95	
CAPCOM COLL: StriderII, LED Storm, Gh&Ghosts, Dyn Wars etc	£14.95	£20.95
CHART ATTACK: Lotus Esp, Gh&Ghost, SupCars, Sh. Beast, Impossamole	£11.95	£15.95
DIZZY EX ADV: Dizzy Panic, Spell, Yolk Folk, Rapids, KSnax	£8.50	
GRANDSTAND: Gazza, W.C.L Boards, Cont. Circus, Pro Tennis	£11.95	£15.95
HOLLYWOOD COL: Robocop, GhBustII, Bman Mov, IJones L.C	£11.95	£15.95
MOVIE PREMIERE: Turtles, B.FutII, GremII, IJones L.C	£11.95	£15.95
SOCCER STARS: Kick Off II, Gazza II, E. Hughes, Micro Prose Socc	£10.95	£14.95
SUPER SEGA: Sup. Monaco, ESWAT, Crackdown Gold Axe, Shinobi	£14.95	£20.95
SUPER SIM PACK: Int 3D Ten, Cr. Cars II, Italy 1990, A. Ranger	£13.99	£20.95
TNT2: Hydra, Badlands, St. Runner, SK & Cross, Robot Monst	£10.95	£14.95
TOLK. TRILOGY: The Hobbit, Lord Of Rings, Shadows Mordor	£10.95	£14.95
LINEKER COLL: It. 1990, G.L.H/Shot, G.L.S. Skills, S. Star Sacf	£9.95	£11.95
2 HOT 2 HANDLE: G Axe, T. Recall, Sh. Warrior, S. Off Road	£12.95	£15.95

STRATEGY/SIMULATION

	CASS	DISC
Ancient Battles	£11.95	£11.95
Battle Of The Bulge	£10.95	£11.95
Blockbusters	£7.95	
Colossus 4.0 Bridge	£9.95	£11.95
Colossus 4.0 Chess	£8.50	£11.95
Crete 1941	£10.95	£11.95
Em. Hughes Arc Quiz	£9.50	£11.95
Em. Hughes Int Soc	£3.75	£11.95
F16 Combat Pilot	£3.75	£8.95
Gunship	£3.75	£15.95
Man. United Europe	£9.95	£12.95
Pirates (6128 only)		£15.95
Scrabble Deluxe 6128		£12.95
Silent Service	£3.75	£11.95
Super Monaco G.P.	£9.50	£12.95
Toyota Celica GT	£3.75	£11.95
Triv. Pursuit Genus	£11.95	£15.95
World Class Rugby	£9.50	£12.95
Yes Chancellor		£15.95

BUSINESS/UTILITIES

Advanced Art Studio		£19.95
AMX Extra Extra		£20.95
AMX Stop Press		£39.95
AMX Mouse & Interface		£34.95
Cr. Course Typing (6128 + PCW)		£20.95
Mastercalc 128	(128K)	£27.95
Masterfile III	(128K)	£29.95
Maxam		£23.95
Mini Office II	£12.95	£16.95
Money Manager (+PCW)		£24.95
Prospell		£20.95
Protext	£16.95	£21.95
Protype		£23.95
Tas-Sign (6128+PCW)		£29.95
Tas-Spell		£20.95
Tasdiary		£20.95
Tasword 464	£20.95	£24.95
Tasword 6128		£24.95

CARTRIDGES

Batman The Movie	£21.95
Operation Thunderbolt	£21.95
Barbarian II	£21.95
Robocop II	£21.95

BUDGET

Chuckie Egg I	£3.75
Chuckie Egg II	£3.75
Dizzy Bubble	£3.75
Golden Axe	£3.75
Manchester United	£3.75

ACCESSORIES

AMX Mouse & Interface	£34.95
AMX Mouse + Adv Avt + MMat	£54.95
Amstrad MP3 TV Tun CTM644	£29.95
Cassette Alignment Kit	£7.95
Cassette Lead	£3.95
Cassette Recorder	£20.95
Cassette Recorder + leads	£23.95
Cover DDI/FDI Disc Drive	£2.95
Cover DMP 2/3000 Series	£4.95
Cover Set 464+/6128+M/Col	£8.95
Cover Set 464/6128 M/Col	£8.95
Disc Box 80 3.5", 50+3"	£9.95
Disc Drive Cleaner 3"	£5.95
Discs 3" £2.65 Ea, 5 for	£12.50
Disc 3" 10 For	£23.95
FDI Cable for 664/6128	£7.95
Genus Mouse + Adv Art 6128	£49.95
Joystick Splitter	£8.95
Keyboard Ext Leads CPC+	£8.95
Keyboard Ext Leads 464	£7.95
Keyboard Ext Leads 6128	£8.95
Memory Exp. 64K 464/664	£44.95
Mouse Mat	£4.95
Multiface II CPC/CPC +	£46.95
Printer Cable CPC 1 mtr	£8.95
Printer Cable CPC 2 mtr	£10.95
Printer Cable CPC + 2 mtr	£7.95
Ribbon Refresh	£8.95
Surge Protection Plug	£12.95
464+/6128+ Exp. Port Adap	£9.95

JOYSTICKS

AMSTRAD JY2	£7.95
CHEETAH Bug	£13.95
CHEETAH MACH 1	£11.95
CHEETAH Starprobe	£13.95
CHEETAH Tortoise	£9.95
CHEETAH 125+	£9.95
COMPETITION PRO 5000	£14.95
CRUISER Black	£10.95
CRUISER Multicolour	£10.95
CRUISER Clear	£11.95
KONIX NAVIGATOR	£12.95
KONIX SPEEDKING	£10.95
QUICKSHOT Turbo III	£9.95
QUICKSHOT Turbo III M/S	£10.95
QUICKSHOT Maverick	£14.95
QUICKJOY JETFIGHTER	£14.95
STINGRAY	£13.95
ZIPSTICK SUPER PRO	£14.95

EDUCATION PRE-SCHOOL

	AGE	CASS	DISC
1st Steps Mr Men	4-8	£12.95	£12.95
Caesar's Travels	3-9	£12.95	
Here there Mr Men	4-8	£12.95	£12.95
The Shoe People	4-6	£8.95	£12.95

PRIMARY WORD SKILLS

Better Spelling	9+	£9.95	£13.95
Early Words	3-6	£8.95	£13.95
Fun With Words	7-	£8.50	£11.95
Happy Letters	3-6	£10.95	£15.95
Happy Writing	3-6	£10.95	£15.95
Lets Play Words	4-8	£12.95	£12.95
Play & Read Pt 1	4+	£11.95	£14.95
Play & Read Pt 2	4-6	£10.95	£11.95
Read Right Away 1	5-8	£9.95	£12.95
Read Right Away 2	6-9	£9.95	£12.95
Read Right Away 3	7+	£9.95	£12.95
Wordhang	5+	£10.95	£15.95

PRIMARY MATHS SKILLS

Early Maths	4-8	£8.95	£13.95
Fun With Numbers	7-	£8.50	£11.95
Happy Numbers	3-5	£10.95	£15.95
Lets Pl. Numbers	4-8	£12.95	£12.95
Lets Play Money	4-8	£12.95	£12.95
Primary Maths	3-12	£24.95	£24.95
Timeman 1	4-9	£10.95	£15.95
Timeman 2	4-10	£10.95	£15.95

MATHEMATICS

Better Maths	12-16	£9.95	£13.95
Micro Maths	9-Ad	£24.95	£24.95
Mega Maths	15+	£24.95	£24.95

SCIENCES

Biology 1	12-16	£9.95	£13.95
Chemistry 1	12-16	£9.95	£13.95
Physics 1	12-16	£9.95	£13.95

LANGUAGES

French Mistress	11+		£16.95
German Master	11+		£16.95
Italian Tutor	11+		£16.95
Spanish Tutor	11+		£16.95
Micro English	8-Ad		£24.95

GENERAL

Five on Treasure Isl		£9.50	£11.95
Funschool II	6-	£9.50	£11.95
Funschool II	6-8	£9.50	£11.95
Funschool II	8+	£9.50	£11.95
Funschool 3 or 4	5-	£10.95	£13.95
Funschool 3 or 4	5-7	£10.95	£13.95
Funschool 3 or 4	7+	£10.95	£13.95
The Three Bears	5+ 6128		£13.95
Granny's Garden	6-10 6128		£16.95
Dragon World	6-10 6128		£20.95
Giant Killer	9-14		£15.95
Answer Back Jnr	6-11		£11.95

QUESTION PACKS FOR ANS BACK JNR

Arithmetic	6-11	£7.95
Spelling	6-11	£7.95
Nat. History	10+	£7.95
20th Cent. Hist	12+	£7.95
English Words	12+	£7.95
World Geography		£7.95

Educational Software for AMIGA, ST, IBM, PC, PCW, C64, SPECTRUM
Please telephone for brochure and price list

PRINTERS

9 PIN PRINTERS

CITIZEN 120D +	£139.95
STAR LC20	£159.95
PANASONIC KXP 1170	£159.95
CITIZEN SWIFT 9	£199.95
STAR LC200 COLOUR	£219.95

24 PIN PRINTERS

STAR LC24-20	£209.95
CITIZEN 224	£219.95
PANASONIC KXP-1123	£219.95
STAR LC24-200	£259.95
PANASONIC KXP-1124i	£279.95
STAR INKJET SJ48	£259.95

All Printers are Supplied with a cable and are ready to use.
Prices include VAT and Postage
3 Day Securicor Delivery Add £5

PRINTER RIBBONS

QUANTITY	1	2	5
DMP 2000/3000	3.75	7.00	16.25
CITIZEN 120D	3.95	7.50	16.25
CITIZEN SWIFT9	3.95	7.50	16.25
CITIZEN 224	4.95	9.00	21.00
PANASONIC	3.95	7.50	16.25
STAR LC10	3.75	7.00	16.25
STAR LC24-10	3.95	7.50	17.50
STAR LC200 COL	10.95	19.95	

SEGA GAMES CONSOLES

SEGA MASTER SYSTEM II £79.99
(Includes Sonic + Alex Kidd)

ACCESSORIES

Additional Control Pad	£6.99
Control Stick	£14.99
Infra Red Control Pad	£29.99
Light Phaser + Cartridge	£44.99
Master System Games from	£9.99

SEGA MEGA DRIVE £129.99
With Control Pad, Sonic Hedgehog

ACCESSORIES

Additional Control Pad	£14.99
Power Stick (Rapid Fire)	£34.99
Power Base Convertor Allows Use of Master System Games	£29.99
Mega Drive Games from	£29.99

SEGA GAME GEAR £129.99
(Includes Sonic plus AC adaptor)

10% Off All Sega Games Over	£15.00
M/SYSTEM Olympic Gold	£29.69
M/SYSTEM Super Kick Off	£31.49
M/DRIVE Alisia Dragoon	£35.99
M/DRIVE Olympic Gold	£35.99
M/DRIVE Taz Mania	£31.49
GAME GEAR Olympic Gold	£26.99
GAME GEAR Axe Battler	£26.99

VISA

NEW GAMES AVAILABLE ON DAY OF RELEASE: PLEASE PHONE FOR AVAILABILITY
TELEPHONE/FAX ORDERS (0257) 421915 Mon - Fri 9.00-17.30 Sat 9.00-12.30 (Answerphone/Fax other times)

Access

Qty	Description	Price

Total .... £

Name: ....
Address: ....
Tel No: ....
Date: ....
Signed: ....

PRICES INCLUDE POST & PACKING IN U.K. PLEASE MAKE CHEQUES/PO'S PAYABLE TO **O.J. SOFTWARE**

I enclose CH/PO for £   Or debit ACCESS/VISA No. ________________ Exp________

O.J. SOFTWARE, 273 MOSSY LEA ROAD, WRIGHTINGTON, NR WIGAN, LANCS. WN6 9RN
MOST ORDERS ARE DESPATCHED BY RETURN (OUT OF STOCK ITEMS NORMALLY WITHIN ONE WEEK)
OVERSEAS ORDERS: SOFTWARE ITEMS OVER £10.00 Ea POST FREE, OTHERS ADD £1.00 Ea.

FREE! FROM SILICA





When you buy your new Atari 520, 1040 or Mega ST-E computer from Silica Systems, we will give you an additional £324.75 worth of software FREE OF CHARGE, including some great entertainment and productivity programs. These free gifts will introduce you to the world of ST computing and help you to get off to a flying start with your new ST. Plus, with every ST and TT, we will give you 16 nights holiday hotel accommodation for you and your family to enjoy a break at home or abroad.

TENSTAR PACK:

ASTERIX	£24.99
CHESS PLAYER 2150	£24.95
DRIVIN' FORCE	£19.95
LIVE AND LET DIE	£19.99
ONSLAUGHT	£24.99
PIPE MANIA	£19.99
RICK DANGEROUS	£24.99
ROCK 'N' ROLL	£19.99
SKWEEK	£19.99
TRIVIAL PURSUIT	£19.95

16 NIGHTS HOLIDAY
HOTEL ACCOMMODATION

Every Atari ST from Silica comes supplied with a free 72 page colour brochure with accommodation vouchers. These entitle 2 people to stay up to a total of 16 nights in any of 250 hotels with accommodation FREE. All you have to pay for are your meals (prices are listed in the brochure).

PRODUCTIVITY PACK:

1st WORD — Word processing package from GST	£59.99
SPELL IT — Spelling checker to complement 1st Word	£19.99
ST BASIC — Basic programming language with tutorial	£24.99
TOTAL VALUE:	**£324.75**

WORTH NEARLY £360!

NEW! ATARI ST

520ST-E START PACK



The perfect introduction to home computing

PLUS! FREE GIFTS FROM SILICA
(SEE PANEL ON LEFT)



HARDWARE:

520ST-E Computer — 8MHz 16-Bit 68000 CPU, 512K RAM, Mouse, TV Modulator, Internal PSU, 1Mb Floppy Disk Drive	£299.99
SOFTWARE - ARCADE CLASSICS:	
Missile Command - Shoot Em Up	£9.99
Crystal Castles - Platform Capers	£9.99
Super Break Out - Wall Demolition	£9.99
Battle Zone - 3D Tank Battle	£9.99
SOFTWARE - PRODUCTIVITY:	
First Word - Word Processor	£59.99
Neochrome - Art Package	£29.99
ANI ST - Animation Package	£29.95
***PLUS!* FREE FROM SILICA:**	
Silica Productivity Pack	£104.97
TenStar Games Pack	£219.78
Total Value:	**£784.63**
Less Pack Saving:	£525.63
SILICA PRICE:	**£259.00**

PLUS! 16 NIGHTS HOLIDAY ACCOMMODATION

£259

FREE BROCHURE!

RETURN THE COUPON FOR A FREE COLOUR ST BROCHURE

520ST-E DISCOVERY XTRA



HARDWARE:

520ST-E COMPUTER — 8MHz 16-Bit 68000 CPU, 512K RAM, Mouse, TV Modulator, Internal PSU, 1Mb Drive	£299.99
SOFTWARE - *ENTERTAINMENT:*	
ESCAPE FROM ROBOT MONSTERS — Fight to destroy the robot army	£19.99
FINAL FLIGHT — Fast action beat-em-up game	£25.99
NINE LIVES — Save Claudette from the mad scientist	£24.99
SIM CITY — Take control of your own city	£29.95
SOFTWARE - *PRODUCTIVITY:*	
CONTROL ACCESSORIES	FREE
V52 EMULATOR PROCESSOR	FREE
ST TOUR GEM tutorial for the ST	£4.99
FIRST BASIC Basic programming language	£49.99
NEOCHROME Powerful drawing package	£49.99
***PLUS!* FREE FROM SILICA:**	
Silica Productivity Pack	£104.97
TenStar Games Pack	£219.78
Total Value:	**£830.63**
Less Pack Saving:	£551.63
SILICA PRICE:	**£279.00**

PLUS! 16 NIGHTS HOLIDAY ACCOMM

NORMAL RRP ~~£299.99~~ **£279**
Ref: STC 6252

1040ST-E FAMILY CURRICULUM



HARDWARE:

1040ST-E COMPUTER — 8MHz 16-Bit 68000 CPU, 1Mb RAM, Mouse, T V Modulator, Internal PSU, 1Mb Disk Drive	£399.99
SOFTWARE MODULES:	
PLAY AND LEARN — Prof Plays a New Game with Words and Sentences	£76.59
JUNIOR SCHOOL LEAVER — Answer Back/General Knowledge Quiz, Spelling and Primary Maths	£58.54
GCSE — Micro Maths, French, and Geography Quiz	£55.54
BUSINESS — ST Word, ST Base & ST Calc	£159.85
CREATIVE — Hyper Paint II, Music Maker and First Basic	£134.97
***PLUS!* FREE FROM SILICA:**	
Silica Productivity Pack	£104.97
TenStar Games Pack	£219.78
Total Value:	**£1210.23**
Less Pack Saving:	£861.23
SILICA PRICE:	**£349.00**

PLUS! 16 NIGHTS HOLIDAY ACCOMM

NORMAL RRP ~~£399.99~~ **£349**
Ref: STC 1250

1040ST-E MUSIC MASTER



The Music Master Pack features one of the most popular computers used by musicians combined with the renowned MIDI package PRO 24 III to provide a perfect environment for novice and professional alike. The acclaimed MIDI Recording and Editing System from Steinberg, PRO 24 III is used by many top musicians including Dire Straits and PWL. Using any MIDI keyboard, PRO 24 offers the ability to write and compose music to a very high standard. You can record up to 24 tracks simultaneously, and then apply real time editing to remove mistakes.

HARDWARE:

1040ST-E COMPUTER — 8MHz 16-Bit 68000 CPU, 1Mb RAM, Mouse, TV Modulator, Internal PSU, 1Mb Disk Drive	£399.99
SOFTWARE:	
PRO 24 III	£150.00
***PLUS!* FREE FROM SILICA:**	
Silica Productivity Pack	£104.97
TenStar Games Pack	£219.78
Total Value:	**£874.74**
Less Pack Saving:	£525.74
SILICA PRICE:	**£349.00**

PLUS! 16 NIGHTS HOLIDAY ACCOMM

NORMAL RRP ~~£399.99~~ **£349**
Ref: STC 1261

MEGA ST



- 16MHz 16-Bit 68000 Processor
- 3½" 1.44Mb Double Sided Disk Drive
- 1/2/4Mb RAM Versions
- 47Mb Hard Drive Versions Available
- 4096 Colour Palette
- Stereo 8-Bit PCM Sound Output
- *FREE* Silica Productivity Pack
- *FREE* Tenstar Games Pack
- *FREE* 16 Nights Holiday Accom.

	1Mb RAM	2Mb RAM	4Mb RAM
0 Mb HD	£586 STC 8421	–	–
47 Mb HD	–	£985 STC 8522	£1097 STC 8544

ATARI TT



- 32MHz 32-Bit 68030 Processor
- 3½" 1.44Mb Double Sided Disk Drive
- 2/4/8Mb RAM Versions
- Stereo 8-Bit PCM Sound Output
- 4096 Colour Palette
- Built-in 68882 Maths Co-Processor
- Up to 1280 x 960 Resolution
- VME + SCSI Expansion Ports
- Expandable to 36Mb RAM
- Hard Drive Expansion Options
- *FREE* 16 Nights Holiday Accom.

2Mb RAM	4Mb RAM	8Mb RAM
£1169 STC 8925	£1462 STC 8939	£1874 STC 8977

ALL PRICES INCLUDE VAT - FREE OVERNIGHT COURIER DELIVERY IN THE UK MAINLAND

SILICA SYSTEMS OFFER YOU

- ***FREE OVERNIGHT DELIVERY:*** On all hardware orders shipped in the UK mainland.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***BUSINESS + EDUCATION + GOVERNMENT:*** Volume discounts available **081-308 0888.**
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new Atari STcomputer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ST, when you may require additional peripherals and software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Systems Service".

MAIL ORDER HOTLINE **081-309 1111**

SILICA SYSTEMS

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX **Tel: 081-309 1111**
Order Lines Open: Mon-Sat 9.00am-6.00pm — No Late Night Opening — Fax No: 081-308 0608

LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA **Tel: 071-580 4000**
Opening Hours: Mon-Sat 9.30am-6.00pm — No Late Night Opening — Fax No: 071-323 4737

LONDON SHOP: Selfridges (1st Floor), Oxford Street, London, W1A 1AB **Tel: 071-629 1234**
Opening Hours: Mon-Sat 9.30am-6.00pm — Late Night: Thursday until 8pm — Extension: 3914

SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX **Tel: 081-302 8811**
Opening Hours: Mon-Sat 9.00am-5.30pm — Late Night: Friday until 7pm — Fax No: 081-309 0017

To: Silica Systems, CPCAT-1092-79, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND A BROCHURE ON THE ST RANGE

Mr/Mrs/Miss/Ms: .... Initials: .... Surname: ....

Address: ....

.... Postcode: ....

Tel (Home): .... Tel (Work): ....

Company Name (if applicable): ....

Which computer(s), if any, do you own? 79B

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

PUBLIC SECTO

A few people have written asking us to explain what, exactly, in words of less than two syllables, PD is all about. As we're such kind people and as Mr P. Windowcleaner of Sutton Coldfield sent a fiver with his letter (as an aid to gentle persuasion) we're going to explain exactly that

WHAT IS PUBLIC DOMAIN

Public Domain software is software that you can copy yourself without breaking the law. You're not allowed to incorporate bits in your own work without crediting the original author, and you're definitely not allowed to use segments of PD code in commercial programs - PD must never be sold. However, as the more astute of you might have noticed, PD libraries do make a charge for copying their software. This isn't a charge for the programs themselves, but for the service they provide: after all, if a PD librarian takes twenty-five hours every day copying discs, and the remaining hours in the day putting new discs together, then they're entitled to some sort of remuneration.

In general, PD libraries aren't businesses. A quick survey of the PD libraries in existence reveals that no less than, erm, 99.9999% of them are run by people under the age of 20, who generally fit in the library work amongst schoolwork, exams, and the odd game of Tetris. Well, okay, forget the schoolwork and the exams, but not the Tetris. When you consider that they rarely charge more than one measly quid for all their hard work, you're actually getting a pretty good bargain. But treat these kind people with the respect they deserve - don't demand an answer to your letter if you haven't enclosed a stamped addressed envelope, and don't expect your disc to be returned in approximately 0.002 seconds.

So what can you find in the public domain? For a start, not big name film licences. When the author isn't getting any money for his (or her) work, they can't buy the rights for such things. However, you do still find some pretty enjoyable games. Notable examples include the French classic Croco Magneto, a whole host of Tetris clones (some of which are even better than the commercial version), and even a German Pang clone called "Zap't'Balls" which is just as good as the real thing. (It's got great music, too!)

As for serious programs, this is where the public domain really excels. If a program is too much of a niche interest to merit a commercial release, it often ends up in the public domain: examples include a program that lets you produce screens with no border, some highly technical machine code utilities, and about five hundred and thirty two RSX packs, invariably with a command to reset the screen colours. This isn't to say that PD programs are restricted to niche interests only, though. How about a WIMP system to make using CP/M easier? A database? A spreadsheet, perhaps, or a spelling checker? You'll even find word processors (including the demo version of Protext, with the Save function put back on!), art packages (such as the excellent 64k-compatible GPaint) and a plethora of desktop publishing programs!

Not all public domain programs are the same. There are some subtle variations in the copyright of these programs, ranging from pure and simple Public Domain which anyone can copy and anyone can distribute, through to almost-PD which can be copied by individual users, but which requires the permission of the author for PD libraries to distribute, to Shareware, which you can copy in the same way as you can PD, but you must send some loot to the author if you want to carry on using the program. (For this price, you will sometimes receive a printed manual and further updates of the program). Although some people have written such programs for Amstrads (such as Paul Martin, author of CRR), most CPC PD programmers have remained entirely unselfish and asked nothing more than you don't abuse their trust.

One of the wonderful things about the Amstrad PD scene is that, unlike the much more commercialised 16-bit PD markets, CPC PD librarians actually know and use their machines for a bit more than copying

discs. You will find that many libraries actually write their own programs, an attitude that should be applauded as such actions can only help the number of programs that we humble mortals can get our sweaty mitts onto. If possible, try to be discerning with the PD libraries you choose to order from (and there's a lot of choice out there these days): arguably the best way to encourage this, and hence to get more programs to play around with, is to order from the libraries who put a lot of effort into their range. Unfortunately, some people seem to think that, since you can run a PD library by simply using other people's work, they needn't do this: the more genuinely committed libraries that we have around, and the fewer fly-by-nights, the better.

In short, the public domain on the CPC is one of the best places you can find software, and certainly the best place to look for cheap and refreshingly uncommercial programs. As software houses continue to pull away from the CPC towards the more lucrative consoles and 16-bit markets, the public domain will be one of the few places where new software will continue to appear.

There's an incredible amount of stuff out there: all you need to do is to send off a few pennies, a disc and an SAE to a few libraries from the list, and with any luck you should receive back some excellent programs you've never seen before. With literally tens of thousands of k of code out there, the public domain is a worth-while place for any CPC owner to look.

PD REVIEWS

Thanks to Robot PD for sending me the following programs. Most of the programs were imported by them, and it's nice to see a library helping the PD scene in this way. If other libraries could send programs that they were responsible for bringing to the PD scene, Attack! would be quite happy to give you a jolly good plugging too.

DMON

by Ben Twijnstra

DMON is an excellent public domain sector editor. As well as all the normal features you'd expect, DMON gives you a whole lot more: for example, you can sort the directory into alphabetical order (which saves time on CAT, as AMSDOS doesn't have to sort it itself), remove erased files (which stops people unerasing your highly confidential files), and format discs quickly too. In addition, there's a most excellent "Scanning" option, which lets you play around with some protected discs.

The nicest thing about DMON, though, is the way it just seems so solid (f'narr, f'narr). The last thing you want in a disc sector editor is something unreliable which will wipe out the important data you're actually trying to recover: DMON gains very high marks indeed on this score.



DMON - possibly the best PD sector editor

WINLOAD

by Richard Wildey

There's no doubt: Advanced Art Studio is THE professional art package for the CPC. That's not to say, though, that it's perfect. In particular, its interfacing with the outside world leaves a lot to be desired - there's no way of loading compressed screens, windows, or palette files easily.

Well, Richard Wildey has solved one of these problems by producing a nice little utility (only 1k!) to display Art Studio windows outside the program. It's quick (thanks to use of a machine code program), it's easy to use, and it works perfectly. There is only one problem, which is that sometimes it fouls up and the window isn't displayed correctly. However, by simply pressing 'n' in reply to the question "Is this ok?", the window will cunningly be fixed. Definitely a program for seasoned AAS users to get hold of.

CUTOUT

by Dragonbreed Wetware

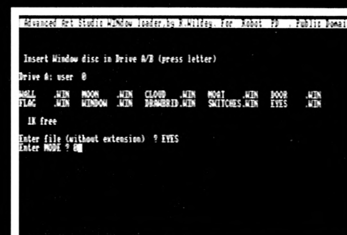
...and to continue the theme of viewing screen areas, another such program (this one from Holland) displays Stop Press.CUT files on screen. In fact, thanks to the clever concept of reformatting the screen to the size of the clip art file, display is extremely fast and accurate too. Again, it only takes up a few k on your discs, and is a highly useful utility for checking which clip art files you want to use on a particular page, whether produced with Stop Press, or the PD PowerPage.

The only thing that makes me have doubts about this program is that, out of the two Stop Press.CUT file viewers available, the other one is the more ripped off one (in such commercial programs as Pagemaker Deluxe and Label Designer). Wonder why?

EXTDISC

by Bevan Arps

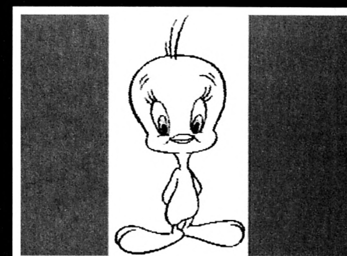
Extdisc, together with its companion program Format (I can't guess what that one does!), lets you use large format discs under CP/M Plus. Written by New Zealander Bevan Arps, it sets up CP/M to recognise a number of extra formats, ranging from ones to give 3" discs extra capacity, to



Winload independently displays Art Studio windows

those such as CP/M Huge Format which lets you use a massive 816k on a 3.5" or 5.25" drive. To format to these, you use the Format program.

If you use AMSDOS as much as or less than you use CP/M - and, let's face it, that applies to most people - then these


The Dragonbreed Cutout viewer at work

programs aren't that much use. There's no AMSDOS equiva-lent, so any discs you create using this format aren't readable except inside CP/M Plus. For these people, a com-mercial program such as ROMDOS is better to ensure compatibility with both operating systems. But for those oddballs amongst you who use nothing but CP/M Plus, Extdisc is an extremely useful and cheap proggy.

TETRIS

by Jan Olsekewski

I wish this program was German or French. If so, I could start the review with something amazing original such as "Sprechen sie deutsch" or "J'aime les jeux de Tetris". But Polish? Are you serious?

Thankfully, Robot PD, the library which imported the program, has translated it from the Polish version. This means that Tetris freaks everywhere can enjoy what is now accepted as the best PD Tetris game, beating the previous champion, Drehdriss from Germany.

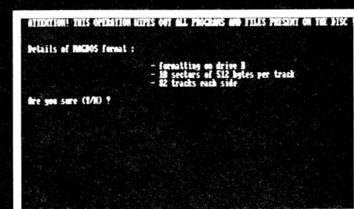
One mark of this game's professional air is the excellent music that plays throughout the game. You can also redefine keys, the hi-score table is saved to disc, a completely useless (but amusing) frequency table of what shape blocks have dropped is displayed - so you can have justification for your claim that none of the incredibly useful long thin blocks have dropped down to help you - and the graphics are much smoother than Mirrorsoft's original. The gameplay is simply the best of any Tetris game, PD or commercial, available on the CPC, and has undoubtedly contributed to many lost working hours of CPC users everywhere. There are only two things left to say - one is "Buy this game", and the other is "please".

MAGIC DOS

by Serge Querne

Does the programmer's name sound vaguely French? In fact, Serge is better known as Longshot, leader of the famous French demo-group Logon System. Logon demos are renowned for being the best on the CPC, and Magic DOS is no exception.

To use the extra capacity of 3.5" drives, as sold by companies such as Siren Software and GVL Microform, large format software is required. Usually this costs at least £10 (for the simplest software, such as MS800) and can in fact cost even more for really top-notch programs like ROMDOS and Xexor. Magic DOS, though, could cost you under one quid, and you won't suffer for paying less. In fact, Magic DOS is very similar to MS800, as it works in the same way - it just sets up the XPB (tech-speak for the parameters which tell AMSDOS what sort of format you want to use) and disappears. There are options to format and to copy files from 3" discs onto the 3.5" drive, which - thankfully for such a necessity - is very easy to use.



Longshot of Logon System's Magicdos 800k formatter

Using Magic DOS, you can get a massive 820k per disc. If you don't own a side switch, you'll need to buy one if you want to use all the capacity of the discs: as with most software (with the exception of ROM/RAMDOS and Xexor), it can't switch sides itself. However, when software which does almost exactly the same costs about nine pounds more, it really does make sense to try Magic DOS first.

One interesting footnote for 128k and Multiface users: when used in conjunction with another one of Serge's programs, Anti-Multiface, you can store as many Multifaced programs on a 3.5" B-drive as will fit into 820k, and the friendly MENU.BAS program supplied with Magic DOS will run them perfectly. This is a boon for those of you who have a large collection of tape games, and want to store the disc-ed versions as cheaply as possible.

FANZINES

CPC DOMAIN issue 11

We received the last ever bi-monthly issue (it's going monthly from issue 12) of this, the well-known disc fanzine, with anticipation. Although disc fanzines are immensely popular in France, British equivalents are much rarer (although there are a few). A vital difference between CPC Domain and French fanzines is that the French creations are PD, whereas CPC Domain is definitely copyrighted - to this end, you can only get a copy from its "subscriptions manager".

On loading, a very impressive picture of the famous Sega (traitors!) star Sonic the Hedgehog appeared. At least, I was impressed until I found that it was actually "borrowed" from a demo by French coders AST and VAB. Come on lads, this isn't on.

This led into the main menu - a scrolling page which looks very much like one produced with one of the less impressive PD desktop publishing packages, Alan Scully's Pagemaker Plus. This is hardly surprising, as until a few issues ago, Alan Scully was boss-in-chief of CPC Domain. Today, he has very little to do with the whole thing, except being responsible for the menu screen code.

Enough of the history lesson, on with the review. The menu lets you choose from the various articles in the magazine, each of which consists of an ASCII text file. Scrolling is a bit slow, and together with the fact that each (short) article is loaded from disc - some articles are split into parts, and you have to load each part after the last - and that the text file displayer has nothing on such custom-written routines such as the excellent SCAN program from Dragonbreed, or the very nice article reader in Micro Mag (a French disc fanzine), this means that plodding through the fanzine is exceedingly tiresome.

What about the contents of the articles? A lot of the magazine is taken up by readers' letters, which are stored in a separate file each. Because of this, each letter must be selected individually from the main menu for you to read it: this is, to put it bluntly, a pain in the neck. I found myself just giving up after having read half the letters.

The magazine also includes a lot of details about the CPC Domain empire. The full Domain PD library list is included, for example, as are articles from fanzine 'officials' on their work, and a few forms to fill in for subscriptions, ordering from the library, etc. There are a few serious reviews in there, which are welcome. However, it must be said that you get better serious reviews from reading Attack!, which illustrates its reviews with screenshots of the program in question. For a fanzine that takes up one whole 360k disc, the amount of articles is frankly pitiful.

The reasons why disc fanzines are so popular in France is that they take full advantage of the opportunities offered by running a fanzine on disc. For example, they include animations, superb graphics, music, program previews, and in some cases even machine code tutorials where the source code can be taken straight from the disc and inserted into your assembler. CPC Domain, unlike these, is a paper fanzine struggling to get out (in fact, it appeared on paper for the first few issues): all the articles could just as well be printed on paper, and in fact would probably be better off like that. Flicking pages is a lot less hassle than waiting a long time for the disc to load the appropriate articles!

That's not to say that CPC Domain makes no concessions to the disc format. There are a few 'free programs' on the disc, one of which was a disc manager. I loaded this up, selected a file, and chose the "Amend file" option. After a few seconds of rhythmical clunking, I became suspicious, and reset the machine to re-CATalogue the disc. "Drive A: read fail". A quick check with a disc sector editor revealed that the disc had been reformatted to a non-existent and ultimately useless format. So that's the end of that review, then!

CONTACTS • ADVENTURE PD, 10 Overton Road, Abbey Wood, London SE2 9SD. SAE for details • AMSTER'S CAGE DATA PD, Lightcliffe, Station Hill, Wigton, Cumbria CA7 9BW. SAE for details • CPC DOMAIN, 20 Montague Road, Saltford, Bristol BS18 3LA. £1.25 plus disc for latest issue • DARTSMA PD LIBRARY, 47 Kidd Place, Charlton, London SE7 8HF. SAE for details • ROBOT PD, 2 Trent Road, Oakham, Rutland LE15 6HF. 45p plus disc and SAE for catalogue • SOUNDS LIKE PD, 6 Keyberry Park, Decoy, Newton Abbot, South Devon TQ12 1BZ. SAE for details • WACCI, 12 Trafalgar Terrace, Long Eaton, Nottingham NG10 1GP. 34p stamp for latest issue.

FREE CATALOGUE

COMPLETE & RETURN THE COUPON BELOW
FOR A FREE 64 PAGE COLOUR AMIGA CATALOGUE

FREE! FROM SILICA



When you buy your new Amiga computer from Silica Systems, we will give you an additional £369.73 worth of software FREE OF CHARGE, including some great entertainment and productivity programs. These free gifts will introduce you to the world of computing and help you to get off to a flying start with your new Amiga. Plus, with every Amiga from Silica we will give you 16 nights FREE holiday hotel accommodation for you and your family to enjoy a break at home or abroad.

16 NIGHTS HOLIDAY HOTEL ACCOMMODATION

Every Amiga 500 and 600 from Silica comes supplied with a free 72 page colour brochure with accommodation vouchers. These entitle 2 people to stay up to a total of 16 nights in any of 250 hotels with accommodation FREE. All you have to pay for are your meals (prices are listed in the brochure).

ARCADE ACTION PACK:

10 Superb entertainment titles:

- *ASTERIX* £24.99
- *CHESS PLAYER 2150* .. £24.95
- *DRIVIN' FORCE* £24.95
- *LIVE AND LET DIE* £19.99
- *ONSLAUGHT* £24.99
- *PIPE MANIA* £24.99
- *RICK DANGEROUS* £24.99
- *ROCK 'N' ROLL* £19.99
- *SKWEEK* £19.99
- *TRIVIAL PURSUIT* £19.95

PRODUCTIVITY:

PHOTON PAINT 2.0 .... £89.95
The recommended paint package
GFA BASIC V3.5 .... £50.00
A powerful basic interpreter

TOTAL VALUE: £369.73

WORTH NEARLY £370!

AMIGA 600 - NEW LOW PRICE!

£299
INC VAT - (1Mb RAM - No Hard Drive)

NEW! Compact Design
36cm x 24cm x 7cm
78 Key Keyboard

3½" Internal Floppy Drive

1Mb RAM As Standard
10Mb RAM Maximum

Kickstart/ Workbench
Latest version: v2.05

Built-In TV Modulator
For connection to a television

IDE Hard Disk Controller
For 2½" Hard Disk Drives, (Upgrade kit to max 120Mb HD also Kickstart upgrade for HD support available soon)

Hard Disk Model Available
With 20Mb 2½" Hard Disk Drive

Smart Card Slot
Built-in as standard

Trapdoor Slot
For optional plug-in Chip RAM and battery backed clock

2 x Joystick/Mouse Ports
Easy access - located on right side of A600, in front of disk drive

Composite Video Output
Full colour composite video output for connection to most monitors

1 Year On-site Warranty

Silica announce a NEW LOW PRICE of £299 for the Amiga 600, a huge saving of £100 off the previous RRP of £399! With its modern compact wedge shape design and the employment of the latest advancements in Amiga technology, it represents the very best investment for home computing. It has all the power of a first class games console with a full range of entertainment software available, as well as being a true home computer, with business and education software and an extensive range of peripherals and accessories.

The Amiga 600 uses state-of-the-art surface mount technology, for maximum reliability and features a 3½" floppy disk drive, mouse, TV modulator and smart card slot all as standard. The innovative smart card slot accepts games, ROM or RAM cards (from 1Mb up to 4Mb) and will take advantage of many future new developments. The very latest version of the operating system, Kickstart/Workbench v2.05 is used in the Amiga 600 and its enhanced chip set facilities include improved graphics resolution, increased genlock support and the facility for up to 2Mb of chip memory. The Amiga 600 is fully compatible with the A670 CD-ROM Drive and Interface which will give it access to a full range of CDTV titles and audio CDs. The Amiga 600 is available from Silica in several configurations (see below) including a specially upgraded 2Mb RAM version.

FREE GIFTS
FROM SILICA
SEE PANEL TO LEFT

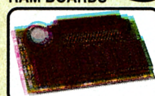
AMIGA 600 CONFIGURATION OPTIONS

NEW! FROM SILICA 2Mb RAM OPTION WITH CLOCK (BATTERY BACKED)

	0Mb Hard Drive		20Mb Hard Drive	
	1Mb RAM	2Mb RAM	1Mb RAM	2Mb RAM
• 1Mb AMIGA 600 + MOUSE	£299.99	£299.99	£299.99	£299.99
• 1Mb RAM UPGRADE	N/A	£60.00	N/A	£60.00
• 20Mb HARD DISK	N/A	N/A	£299.00	£299.00
• DELUXE PAINT III	£79.99	£79.99	-	-
• 'MYSTERY' GAME	VARIABLE	VARIABLE	-	-
• 1 YEAR ON-SITE WARRANTY	✓	✓	✓	✓
PLUS! - FREE FROM SILICA				
• PHOTON PAINT v2.0	£89.95	£89.95	£89.95	£89.95
• ARCADE ACTION GAMES PACK	£229.78	£229.78	£229.78	£229.78
• GFA BASIC INTERPRETER v3.5	£50.00	£50.00	£50.00	£50.00
TOTAL PACK VALUE:	£749.71	£809.71	£968.72	£1028.72
LESS PACK SAVING:	£450.71	£460.71	£519.72	£529.72
SILICA PRICE:	£299	£349	£449	£499

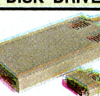
PERIPHERALS FOR AMIGA COMPUTERS

AMITEK RAM BOARDS (FOR A600)



Upgradable RAM board available with 0K, 512K and 1Mb of RAM. Built-in battery backed clock. Plugs straight into the Amiga A600 trapdoor. No soldering required - 2 year guarantee.

SLIMLINE DISK DRIVE



19mm Super Slimline colour co-ordinated 3½", 1Mb, double sided disk drive. Draws power from the Amiga and includes thru-port for connection of additional drives. 1 year replacement guarantee.

RAM UPGRADES

CODE	DESCRIPTION	RRP	SILICA PRICE
RAM 0600	AMITEK - 0K Populated - A600	£29.95	£27.95
RAM 0605	AMITEK - 512K Populated - A600	£44.95	£39.95
RAM 0610	AMITEK - 1Mb Populated - A600	£60.00	£50.00
RAM 0560	CBM 512K Board - A600	£24.99	£22.99
RAM 0501	CBM - 512K Board - A500	£99.99	£49.99
RAM 0505	512K Board - No Clock - A500	£24.95	£19.95
RAM 0510	512K Board - Inc Clock - A500	£29.99	£24.95

EXTERNAL DISK DRIVES

DRI 0555	SLIMLINE - 3½" 1Mb - Ivory Colour	£79.00	£54.95
DRI 2956	ROCLITE - 3½" 1Mb - Ivory Colour	£69.95	£64.95
CCA 6011	ROCLITE - 3½" 1Mb - Black Colour	£69.95	£64.95

PRINTERS

PRI 3700	CBM MPS 1270 Ink Jet Printer	£149.99	£129.00
PRI 3230	CBM MPS 1230 9 Pin Dot Matrix	£169.99	£139.00

COLOUR MONITORS

MON 6144	GOLDSTAR TV/Monitor inc. cable	£199.95	£179.95
MON 4184	CBM 1084S Monitor inc. cable	£299.99	£249.95

ROM UPGRADE

UPG 1100	ICD Kickback K'bd ROM Swapper	£24.95	£19.95

AMIGA 500 STANDALONE



HARDWARE

- **512K AMIGA 500 COMPUTER** ... £299.99
  Inc. 1Mb 3½" Disk Drive, Mouse Controller, Power Supply, Workbench 1.3 & Manuals
- **512K RAM EXPANSION TO 1Mb RAM** . £24.95
- **A520 TV MODULATOR** .... FREE

PLUS! - FREE FROM SILICA

- **PHOTON PAINT V2.0** £89.95
- **ARCADE ACTION PACK** £229.78
- **GFA BASIC** £50.00

TOTAL PACK VALUE: £694.67
LESS PACK SAVING: £395.67
SILICA PRICE: £299.00

ORIGINAL AMIGA 500
WITH BUILT-IN 18-KEY NUMERIC KEYPAD

£299
INC VAT - Ref: AMC 0510

CDTV™ INTERACTIVE MULTIMEDIA — COMPUTER SYSTEM SAVE £200!

UPGRADE YOUR AMIGA 500 FOR ONLY £399

We are pleased to announce a very special trade-in offer to Amiga 500 owners who are keen to take advantage of the extra benefits offered by Commodore's multimedia innovation, the CDTV.

Amiga owners who return their working Amiga 500 computer (with Kickstart V1.2 or 1.3), mouse, power supply and manual to Silica, can claim a £200 discount off the price of the new Amiga CDTV Computer System. This new system (normal RRP £599) is fully compatible with all Amiga software. In addition, it provides access to a vast range of CDTV titles. CDTV works much like a standard Amiga 500 or 600 but has many additional features including a compact disc drive that can hold up to 550 megabytes of information per disc as well as play audio discs to a very high quality. CDTV comes supplied with the latest infra-red remote control keyboard, giving you full control of your system from the comfort of your armchair.

TRADE-IN OFFER

CDTV SYSTEM	£599
AMIGA 500 TRADE IN..	-£200
YOU PAY	**£399**

£399
INC VAT - Ref: AMC 1250



FEATURES INCLUDE:

- *Full Compatibility With Existing A500 Software*
- *1Mb Chip RAM*
- *CDTV Player*
- *Plays Audio CDs & CD + Graphics Discs*
- *Full QWERTY Keyboard*
- *Built-in Monitor; Serial & Parallel Ports as on the A500*
- *880K 3½" Disk Drive*
- *Mouse Controller*
- *Infra-Red Remote Control*
- *Workbench 1.3 & Manuals*
- *Welcome CD + Caddy*

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

SILICA SYSTEMS OFFER YOU

- *FREE OVERNIGHT DELIVERY:* On all hardware orders shipped in the UK mainland.
- *TECHNICAL SUPPORT HELPLINE:* Team of technical experts at your service.
- *PRICE MATCH:* We normally match competitors on a "Same product - Same price" basis.
- *ESTABLISHED 14 YEARS:* Proven track record in professional computer sales.
- *£12 MILLION TURNOVER (with 60 staff):* Solid, reliable and profitable.
- *BUSINESS + EDUCATION + GOVERNMENT:* Volume discounts available 081-308 0888.
- *SHOWROOMS:* Demonstration and training facilities at our London & Sidcup branches.
- *THE FULL STOCK RANGE:* All of your requirements from one supplier.
- *FREE CATALOGUES:* Will be mailed to you with offers + software and peripheral details.
- *PAYMENT:* Major credit cards, cash, cheque or monthly terms.

Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Systems Service".

MAIL ORDER HOTLINE 081-309 1111

SILICA SYSTEMS



MAIL ORDER: Order Lines Open: Mon-Sat 9.00am-6.00pm	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX — No Late Night Opening	**Tel: 081-309 1111** Fax No: 081-308 0608
LONDON SHOP: Opening Hours: Mon-Sat 9.30am-6.00pm	52 Tottenham Court Road, London, W1P 0BA — No Late Night Opening	**Tel: 071-580 4000** Fax No: 071-323 4737
LONDON SHOP: Opening Hours: Mon-Sat 9.30am-6.00pm	Selfridges (1st Floor), Oxford Street, London, W1A 1AB — Late Night: Thursday until 8pm	**Tel: 071-629 1234** Extension: 3914
SIDCUP SHOP: Opening Hours: Mon-Sat 9.00am-5.30pm	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX — Late Night: Friday until 7pm	**Tel: 081-302 8811** Fax No: 081-309 0017

To: Silica Systems, CPCAT-1092-80, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND A 64 PAGE AMIGA COLOUR CATALOGUE

Mr/Mrs/Miss/Ms: .... Initials: .... Surname: ....

Company Name (if applicable): ....

Address: ....

....

.... Postcode: ....

Tel (Home): .... Tel (Work): ....

Which computer(s), if any, do you own?.. 80D

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

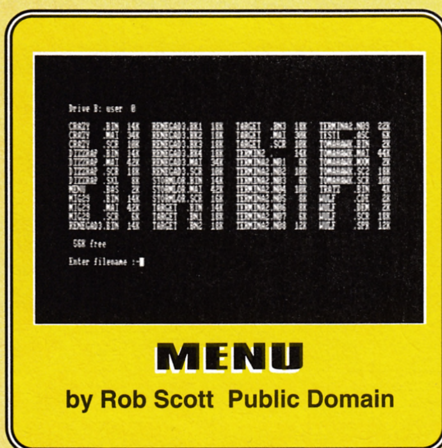
C.P.C. Attack! LISTINGS

Attack! type-ins are not automatically Public Domain. If you wish to use them in your own programs, then you must get permission from the author, unless otherwise stated in the listings. If you have any useful utilities, that you have written yourself, and you'd like a bit of fame, (and if we're feeling VERY generous, perhaps even a game or two!), why not send them in to the usual address.

One new feature that will appear during this series is the introduction of assembly listings. The reason for this is that we have always believed that the best way to start programming is by hands-on experience, and you can't get more hands on than typing in the listings.

All assembler listings are produced for the MAXAM assembler, although they should work on others with a little modification. All the MAXAM listings have comments indicating how they work. This will not only help you understand, but also make it easier for you to modify them, and who knows, even make them better. Whatever you do, don't forget to send your programs in.

This month we start a new series, Listings, which have always been very popular. A lot of survey replies asked for them and here they are. There's no room in these next four pages for wimpy listings!, as only the best will do for our readers!



MENU

by Rob Scott Public Domain

One of the most common complaints we receive, is from ROMDOS owners, who have transferred their tape based games collections to disk, under one of the 800k ROMDOS formats, but when they run the game, the loader resets to loading off drive A. The answer in 98% of the cases is this small program below. Written in BASIC and MACHINE CODE, it will CATalogue your disk and ask you which file to run. Enter the filename, and press RETURN. The game will now load and RUN. If it crashes, then the chances are that the loader overwrites the menu program. In which case alter line 50 to read 50 start=&xxxx where xxxx is any number between &50 and &af00.

```
10 '*******************************
20 '* Loader for drive B (RAMDOS) *
30 '* format. (c) 1992 Rob Scott *
40 '*******************************
50 '*Patches KL_ROM_WALK,JMP RESET*
60 '*MC_START_PROGRAM, etc. *
70 '*******************************
80 '
90 '*******************************
100 '* Change address in line 150 *
110 '* if program crashes after *
120 '* game loads.. *
130 '*******************************
140 '
150 start=&100
160 MODE 2:CAT
170 INPUT"Enter filename :-",name$
180 FOR a=start TO start+&3B
190 READ a$:POKE a,VAL("&"+a$):NEXT
200 CALL start,@name$
210 a=&C9:POKE &BD37,a:POKE &BCCE,a
220 POKE &BCCB,&C9:POKE &BCC8,&C9
230 a=a+&20:POKE &BD16,a
240 RUN name$
250 DATA FE,01,C0,DD,6E,00,DD,66,01
260 DATA 7E,47,23,5E,23,56,EB,11,00
270 DATA C0,CD,77,BC,C8,B7,C8,FE,01
280 DATA C8,EB,CD,83,BC,E5,CD,7A,BC
290 DATA 3E,C9,32,CB,BC,32,CE,BC,32
300 DATA C8,BC,32,37,BD,C6,20,32,16
310 DATA BD,32,13,BD,E1,E9
```

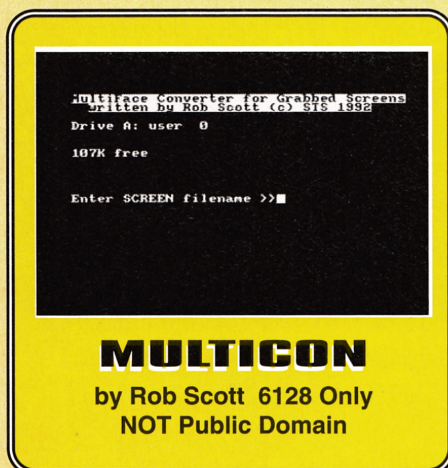
MULTIFACE TO AMSDOS SCREEN CONVERTER

© 1992 Rob Scott

Lots of people have written in with Multiface screen converters. These are utilities that convert a MULTIFACE normal size screen to a format that can be loaded into an Art Package. Many of the listings we received were over 20 lines long, which seems excessive, especially when you can do it in 6 lines, as shown below! Just run the program, it will CATalogue your disk, and ask you for a the screen filename.

When the screen has loaded, you will hear a beep. At this point insert the disk to save onto into the disk drive and press any key. The new screen file will be saved as the same name as the Multiface screen, with the extension ".SCR".

```
10 MEMORY 16383:MODE 2:CAT
20 INPUT"Enter Filename",file$
30 LOAD file$,&4000
40 PRINT CHR$(7);
50 SAVE"file$"+.scr",b,&c000,&4000
60 PRINT"All Done...":end
```



MULTICON

by Rob Scott 6128 Only
NOT Public Domain

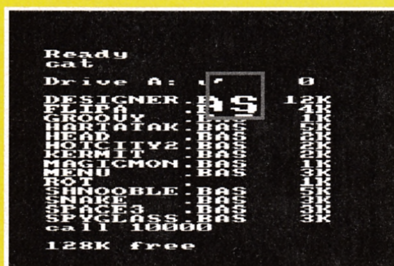
From the most simple to the most complex. MULTICON is another Multiface file converter. Okay, stop yawning!. This one not only converts the screen to a standard AMSDOS screen, but if it is a SPECTRUM screen (all disjointed!), then it will automatically detect and convert that as well!! The screen is saved with the INKS, BORDER and MODE within itself, and can be displayed by loading into the DISPLAY program, which is directly after MULTICON. As if all this ART-mungus stuff wasn't enough, it also saves out a PALette file, so that the file can be loaded into the Advanced Art Studio, with all the inks correctly set. This is the program we use in the office for converting screens!

```
10 '********************************
20 '* Multiface Screen manipulator *
30 '* (c) 1992 Rob Scott and STS!! *
40 '* written for grabbing screens *
50 '*  from Multiface format and   *
60 '*converting them to normal even*
70 '*if they are in SPECTRUM format*
80 '********************************
90 '
100 '
110 IF HIMEM=&3FFF THEN 140
120 MEMORY &3FFF
130 GOSUB 670 :CALL &8500
140 MODE 1:INK 0,0:INK 1,20:INK 2,26
150 INK 3,22:BORDER 0
160 WINDOW #1,1,40,5,19
170 PRINT"MultiFace Converter for Grabbed Screens"
180 PRINT"  written by Rob Scott (c) STS 1992"
190 PRINT"Insert disk in drive and Press any key.":CALL &BB18
200 |DIR,"*.bin"
210 PRINT:PRINT:PRINT
220 INPUT"Enter SCREEN filename >>",file$
230 IF file$="" OR LEN(file$)=0 OR LEN(file$)>8 THEN 220
240 PRINT:PRINT
250 PRINT" Insert DISK with SCREEN and press anykey"
260 CALL &BB18
270 LOAD file$+".bin",&4000
280 IF PEEK(&8079)=&20 THEN spec=1
290 scmode=PEEK(&8088) AND 3
300 CLS#1
310 LOCATE#1,5,19
320 |DECODE
330 BORDER PEEK(&9000)
340 MODE scmode
350 IF scmode=1 THEN inks=3 ELSE inks=15
360 FOR a=0 TO inks:INK a,(PEEK(&9001+a)):NEXT
370 |MOVEUP
380 IF spec THEN |SPEC
390 CALL &BB18
400 |MOVEDN
410 MODE 1
420 CALL &BC02:PRINT:INPUT"Save the screen Y/N >>",yn$
430 IF UPPER$(yn$)="N" THEN END
440 IF yn$="" THEN 420
450 PRINT:INPUT"Enter SAVE filename >>",sf$
460 POKE &4FED,scmode
470 POKE &4FEE,PEEK(&9000)
480 FOR a=0 TO 15:POKE &4FEF+a,PEEK(&9001+a)
490 NEXT
500 SAVE sf$+".scr",b,&4000,&4000
510 PRINT:PRINT"Saving PALette file..."
520 POKE &8809,scmode
530 POKE &880A,&FF
540 POKE &880B,PEEK(&8067)+&40
550 a=0
560 FOR multi=&8068 TO &8077
570 hardware=PEEK(multi)
580 FOR c=0 TO 12
590 POKE &880C+a+c,hardware+&40
600 NEXT c
610 a=a+12
620 NEXT multi
630 SAVE sf$+".pal",b,&8809,&EF
640 PRINT""
650 PRINT"All Done..and have a nice day!!"
660 END
670 ln=770
680 FOR adr=&8500 TO &8637 STEP 13
690 READ byte$:chk=0
700 FOR i=0 TO 12
710 v=VAL("&"+MID$(byte$,i*2+1,2))
720 POKE adr+i,v:chk=chk+v
730 NEXT
740 IF chk<>VAL("&"+RIGHT$(byte$,3)) THEN PRINT"error in line ";ln:STOP
750 ln=ln+10:NEXT
760 RETURN
770 DATA 211885010A85CDD1BCC91C85C35D5
780 DATA 3385C34E85C35A85C36685000059E
790 DATA 00004445434F44C54D4F5645553B0
800 DATA D04D4F564544CE535045C300064CA
810 DATA 112167801100907EE5D52117864B0
820 DATA 5F1600197ED1E112231310EEC94CD
830 DATA 2100401100C0010040EDB0C9213FA
840 DATA 00C0110040010040EDB0C921003D9
850 DATA C0110040010040D5E5EDB0CD11587
860 DATA BCCD0EBCD1E13E18EDA0EDA0ED862
870 DATA A0EDA0EDA0EDA0EDA0EDA0EDA09EE
880 DATA EDA0EDA0EDA0EDA0EDA0EDA0EDA3B
890 DATA A0EDA0EDA0EDA0EDA0EDA0EDA09EE
900 DATA EDA0EDA0EDA0EDA0EDA0EDA0EDA3B
910 DATA A0EDA0EDA0EDA0EDA0EDA0EDA09EE
920 DATA EDA0EDA0EDA0EDA0EDA0EDA0EDA3B
930 DATA A0EDA0EDA0EDA0EDA0EDA0EDA09EE
940 DATA EDA0EDA0EDA0EDA0EDA0EDA0EDA3B
950 DATA A0EDA0EDA0EDA0EDA0EDA0EDA09EE
960 DATA EDA0EDA0EDA0011000EB09EB3D6D4
970 DATA C27D8501000209EB01800009EB430
980 DATA 7AB3C27B85C90D00131901070A403
990 DATA 100000181A06080F1100001214096
1000 DATA 0002090B0416151703050C0E0007E
```

The screen display program follows. Use this for displaying the screens which were converted with MULTICON.

```
10 'displayer for MULTICON converted screens
20 '
30 MEMORY &3FFF
```

```
40 MODE 2:|DIR,"*.scr"
50 INPUT"Enter screen to load >>",scr$
55 IF scr$="" THEN 1000
60 LOAD scr$+".scr",&4000
70 FOR a=&100 TO &10B:READ b$
80 POKE a,VAL("&"+b$):NEXT
90 MODE PEEK(&4FED):BORDER PEEK(&4FEE)
100 FOR a=0 TO 15:INK a,PEEK(&4FEF+a)
110 NEXT
120 CALL &100
130 CALL &BB03:CALL &BB18:RUN
140 DATA 21,00,40,11,00,c0,01,00,40
150 DATA ed,b0,c9
1000 CALL &BC02:MODE 1:PEN 1:END
```



SPYGLASS

by David Hall

When David Hall isn't writing great games, in very short spaces!, he's writing weird and wonderful utilities. Spyglass will magnify anything under the magnify cursor on the screen. The cursor can be moved around with the Arrow keys, and the utility works ONLY in mode 0.

```
1 ' SPY GLASS By David Hall
2 '
3 ' ******* IMPORTANT *******
4 ' * DON'T RUN THE PROGRAM *
5 ' * BEFORE YOU SAVE IT    *
6 ' *  BECAUSE WHEN IT HAS  *
7 ' * RUN IT ERASES ITSELF! *
8 ' *************************
9 '
10 MEMORY 9999
20 INK 0,0
30 BORDER 0
40 store=10000
50 FOR loop1=1 TO 40
60 sum=0
70 READ code$,total
80 FOR loop2=1 TO 24 STEP 2
90 value=VAL("&"+MID$(code$,loop2,2))
100 POKE store,value
110 sum=sum+value
120 store=store+1
130 NEXT loop2
140 IF sum=total THEN 170
150 PRINT "Error in line ";450+loop1*10
160 END
170 NEXT loop1
180 a=20041
190 FOR loop=20000 TO 20042
200 POKE loop,3
210 POKE loop+547,3
220 POKE a,3
230 POKE a+1,3
240 a=a+14
250 NEXT loop
260 POKE 20086,16
270 POKE 20501,32
280 FOR loop=1 TO 10
290 READ code
300 POKE 20000+code,48
310 NEXT loop
320 PRINT "SPY GLASS works in mode 0 ONLY"
330 PRINT "(C) D.Hall"
340 PRINT
350 PRINT " Just load in a picture"
360 PRINT "or put some text onto"
370 PRINT "the screen then use the"
380 PRINT "SPY GLASS routine !"
390 PRINT
400 PRINT "To use :- CALL 10000"
410 PRINT "Keys :- Cursor keys = Move"
420 PRINT "   ESC = Quit routine"
430 PRINT
440 PRINT "SEE YA !!"
450 NEW
460 DATA 2100C022409C21010122429C,770
470 DATA 22449CCD5328CD7628CD6A28,1300
480 DATA CDBA28CD38273E42CD1EBB28,1321
490 DATA EDC395283E01CD1EBB204D3E,1277
500 DATA 08CD1EBB20103E00CD1EBB20,994
510 DATA 773E02CD1EBBC2FC27C93A42,1415
520 DATA 9CFE01CA46273D32429C2A40,1161
530 DATA 9C010D0009DD21FD55CD3F28,1079
540 DATA 114858214758015802EDB82A,923
550 DATA 409C2B22409CDD21F055CD30,1349
560 DATA 28C346273A429CFE43CA4627,1256
570 DATA 3C32429C2A409CDD21F055CD,1378
580 DATA 3F2811F05521F155015802ED,1132
590 DATA B02A409C110E0019DD21FD55,1086
600 DATA CD30282A409C2322409C1882,998
610 DATA 3A439CFE01C83D32439C2A40,1176
620 DATA 9C11900119CDAE28112E58EB,1148
630 DATA CDF6272148581156580166 02,979
640 DATA EDB82A409CCD29BC22409C11,1388
650 DATA F055010E00EDB0C93A439CFE,1489
660 DATA 9FC83C32439C2A409C11F055,1296
670 DATA EBCDF62721FE5511F0550166,1542
680 DATA 02EDB02A409CCDAE2822409C,1350
690 DATA CDAE2811900119112E5818C6,979
700 DATA 062A110E007EDD7700CD4E28,868
710 DATA 10F7C9062A110E00DD7E0077,1009
720 DATA CD4E2810F7C9DD19C3AE282A,1484
730 DATA 409C11F055062AC5E5010E00,1051
740 DATA EDB0E1CDAE28C110F2C92120,1774
750 DATA 4E110852014E02EDB0C91133,948
760 DATA 5221D8590E24060C1AFE0020,800
770 DATA 027E12231310F513130D20EE,782
780 DATA 110852180311F0552A409C0E,752
790 DATA 2AE5060E1A77231310FAE1CD,1186
800 DATA AE280D20F0C97CC60867D0D5,1554
810 DATA 1150C019D1C9DD21D859219C,1472
820 DATA 560E1206067EE6AA5F1FCDE4,1215
830 DATA 287EE6555F17CDE4282310ED,1360
840 DATA 11080019110C00DD190D20DF,593
850 DATA 83DD7700DD770CDD23C90000,1280
860 DATA
87,100,101,114,128,459,473,486,487,500
```

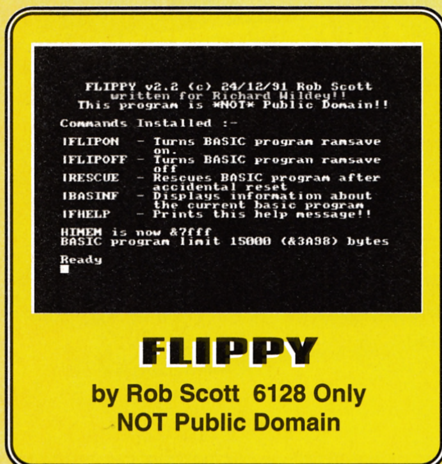
DEEPLY DIPPY

by Richard Wildey
Public Domain

Dippy is a strange program. It will ask you for a line of text, and the curve factor, and then send it to the printer. As it prints, the text er...well, curves, and dips. Quite what this utility could be used for is beyond me, but I'm sure someone out there can do SOMEthing with it!

```
10 REM Deeply Dippy. By Richard Wildey
20 'For CPC Attack!
30 IF INP(&7500) AND &40 THEN PRINT "Put
printer ON LINE":CALL &BB18
40 PRINT #8,CHR$(27);"3";CHR$(1)
50 MODE 1:CLEAR
60 PRINT:PRINT "Deeply Dippy, By Richard Wildey
1992"
70 PRINT:PRINT "PUBLIC DOMAIN"
80 PRINT STRING$(40,"_")
90 LOCATE 1,20:PRINT STRING$(40,"_"):LOCATE
1,8
100 PRINT #8
110 INPUT "Enter text to DIP  ( < 80 CHR's)  ",a$
120 IF LEN(a$)>80 THEN 50
```

```
130 INPUT "Enter curve factor (1-10)";c
140 l=LEN(a$)/2
150 FOR A=0 TO L-1
160 FOR p=1 TO c:PRINT#8:NEXT p
170 PRINT#8,SPC(A);MID$(a$,A+1,1);SPC(L*2-
A*2-2);MID$(a$,l*2-A,1)
180 NEXT
```



FLIPPY

by Rob Scott 6128 Only
NOT Public Domain

No, this isn't a seal simulator (or was that Flipper?), anyway, flippy is one of those programs, that once you start using it you'll wonder how you ever did without it! When run it sets up 4 commands. These are:-

|FLIPON - Turns BASIC program ramsave on.
|FLIPOFF - Turns BASIC program ramsave off.
|RESCUE - Rescues BASIC program after accidental reset.
|BASINF - Displays information about the current BASIC program.
|FHELP - Displays the FLIPPY help file.

The BASIC program limit is 15000 (&3A98) bytes. HIMEM is lowered to &7fff.

The LENGTH of the current BASIC program can be discovered by typing "|BASINF".

Once FLIPPY has been installed (by typing |FLIPON) it will save the current BASIC program into the expanded RAM on a CPC 6128 (or expanded 664/464) automatically every 11 seconds.

This means that should a crash (or reset) occur all the user has to do is re-load the FLIPPY program and type "|RESCUE" and the program will be restored at the point where is was last saved by the program.

Because the program runs under interrupt, you don't even know it's there, so to show the user that it is still operating, when the program is saved the BORDER will toggle between BLACK and BLUE.

If a program is to be rescued after a crash or reset then |FLIPON SHOULD NOT be used until the program has been saved to disk or tape, otherwise the contents of the RAM bank will be filled with zero's (the BASIC ram with nothing in!)

```
10 '***********************************
20 '*Flippy version 2.2 (c) 1991 STS *
30 '* written for Richard Wildey by *
40 '*Rob Scott 23/12/91 12.30am-3.39am*
50 '*Thanx for all the help Richard!! *
60 '***********************************
70 '* This program saves the current *
80 '* BASIC program to expanded RAM *
90 '* every 11 seconds. CPC 6128 only *
100 '**********************************
110 '
120 MODE 1:MEMORY &7FFF:ln=220
130 FOR adr=&8000 TO &83A7 STEP 13
140 READ byte$:chk=0
150 FOR i=0 TO 12
160 v=VAL("&"+MID$(byte$,i*2+1,2))
170 POKE adr+i,v:chk=chk+v
180 NEXT
190 IF chk<>VAL("&"+RIGHT$(byte$,3)) THEN
PRINT"error in line ";ln:STOP
200 PRINT "Line :";ln;"Okay";CHR$(11)
210 ln=ln+10:NEXT
220 CALL &8000:NEW
230 DATA DD7E00F521A982017982CDD1BC6F2
240 DATA F1C0211680CD4883C90401202050E
250 DATA 20464C495050592076322E322033C
260 DATA 2863292032342F31322F393120285
270 DATA 526F622053636F74740A0D0F02378
280 DATA 202020202020777269747465 6E3CD
290 DATA 20666F72205269636861726420464
300 DATA 57696C64657921210A0D0F01202F7
310 DATA 20546869732070726F6772616D4D0
320 DATA 206973202A4E4F542A205075623A8
330 DATA 6C696320446F6D61696E21210A3FC
340 DATA 0D0A0D436F6D6D616E647320493BF
350 DATA 6E7374616C6C6564203A2D0A0D3F5
360 DATA 0A0D7C464C49504F4E20202D202E8
370 DATA 5475726E73204241534943207042E
380 DATA 726F6772616D2072616D736176532
390 DATA 650A0D2020202020202020202020201BC
400 DATA 206F6E2E0A0D7C464C49504F4637E
410 DATA 46202D205475726E73204241533C5
420 DATA 49432070726F6772616E207261498
430 DATA 6D736176650A0D20202020202020F3
440 DATA 2020202020 6F66660A0D7C5245305
450 DATA 534355452020 2D2052657363753BF
460 DATA 6573204241534943207072 6F67432
470 DATA 72616D20616674657 20A0D20203C9
480 DATA 2020202020202020202061636369 2B0
490 DATA 64656E74616C2072657365740A4C5
500 DATA 0D7C424153494E4620202D204430D
510 DATA 6973706C61797320696E666F72543
520 DATA 6D6174696F6E2061626F75740A4CD
530 DATA 0D2020202020202020202020741E1
540 DATA 686520637572726 56E742062614D3
550 DATA 7369632070726F6772616D0A0D46E
560 DATA 7C4648454C5020202020 2D20507235A
570 DATA 696E747320746869732068656C4EF
580 DATA 70206D65737361676521210A0D3CE
590 DATA 0A0D48494D454D206973206E6F380
600 DATA 77202637666660A0D4241534935C
610 DATA 432070726F6772616D206C696D4BD
620 DATA 69742031353030302028263341 2D5
630 DATA 393829206279746573 0A0D0A0D30F
640 DATA FF214382CD48832A64AECD528365B
650 DATA 215582CD48832A66AECD5283ED65D
660 DATA 4B64AE2A66AEED42E5216782CD686
670 DATA 4883E1CD5283C90A0D4241534954D
680 DATA 432073746172742 0203D26FF0A43D
690 DATA 0D4241534943206 56E64202020326
700 DATA 203D26FF0A0D42415349432 06C387
710 DATA 656E677468203D26FF8A82C3AD614
720 DATA 82C33B83C37883C31682C30F8066E
730 DATA 464C49504FCE464C49504F46C64CE
740 DATA 5245534355C54241 53494EC6464C0
750 DATA 48454CD00000000000021F401222E1
760 DATA A78321C38211D082010080CDD7618
770 DATA BCCDED82C9000000000000000003C1
780 DATA 0000000002AA7832B22A7837C347
790 DATA B5C03A3A83EEFF323A83B7280862F
800 DATA 010101CD38BC1806010000CD382E8
810 DATA BC21F40122A7832A64AE22A9835A8
820 DATA 2A66AE22AB83ED4BA9832AAB8364A
830 DATA ED4222AD8301C47FED492AA983651
840 DATA 110040ED4BAD83EDB02AAD83225D2
850 DATA 007F2AA98322027F2AAB8322043F6
860 DATA 7F01C07FED49C90021C382CDDD6CE
870 DATA BC010101CD38BCC97EFEFFC8CD759
880 DATA 5ABB2318F67CCD5B837DCD5B83695
890 DATA C906024F1F1F1F1FE60FFE0A303C9
900 DATA 07C630CD5ABB1805C637CD5ABB5DB
910 DATA 7910EBC9F301C47FED4921004060B
920 DATA ED5B027FED4B007FEDB02A027F5C8
930 DATA 2264AE2A047F2266AE2268AE22471
940 DATA 6AAE226CAE01C07FED49FBC90068E
```

CLASSIFIEDS

FOR SALE

Amstrad 6128+ with monitor. 70 games and master disks with manual. £400 ono. Phone Stephen on 0443 833100 after 6.00pm.

Amstrad Disk Games, Amstrad magazines singles and books for sale at cheap prices. Contact Andrew, 10 Gerllan, Tywyn, Gwynedd LL36 9DE. Tel (0654) 711122.

Amstrad 6128 and green monitor, Juki 6100 daisy wheel printer, Supercalc 2, Brunword, Page Publisher, Advanced Desktop, Microword, MicroFile and some games. Spare Daisy wheel and ribbons, magazines, table, joystick and sheet feeder. £275 call G.Mabley 0293 542970.

Amstrad 6128 PLUS, Stereo Colour Monitor, New Boxed, complete with manual, joypad and guarantee, £175ono - five complete units. Amstrad CPC464 PLUS Stereo Colour Monitor, New Boxed, complete with games pack, manual, joystick, £160ono - nine complete packs. Also CTM644 Colour Monitor £60.00 Tel:- 0273 508340 after 5.00pm

BARGAIN! CPC6128 For Sale including Colour Monitor, Tape Deck, 3 Joysticks, 1 Connector, 17 Disks, 62 Tapes and a cheat book. Brill value, All in great condition. £375 ono. Phone 0786 72578 anytime.

EXCELLENT - Tutorial packages for assembly language programmers. Only £3 each! Tutorials range from introductory levels to advanced programming techniques using CPC firmware. For a complete list, send SAE to Pipeline Software, 9 Brynglas Terrace, Pyle, Mid Glamorgan CF33 6AG.

SUPERB - Home brew software for the CPC range. All games just £4. Will also consider publishing your games - guaranteed review and response to everyone! For a games list, send SAE to Pipeline Software, 9 Brynglas Terrace, Pyle, Mid Glamorgan CF33 6AG.

CPC Original Strategy Board Games for £1.50 each plus your TAPE/DISK. Send for free information sheet: A.Swinbourne, 11 Vicarage View, Redditch, Worcs B97 4RF.

AMSTRAD 464 PLUS, including colour monitor, joystick, control pad, £100 worth of games. All excellent condition, only one year old. £220 ono. Call 0454 418486

CPC464 with monitor, disk drive, printer, speech synthesiser, mouse, light pen, modulator and software. All excellent condition with boxes plus dust covers and extras - value £700+. Will sell all for £500 ono (postage included. Will sell separately. Contact: S.Williams, 42 Beaufort Terrace, Ebbw Vale, Gwent NP3 5NW.

CPC6128, Colour & Mono monitors, 3.5in. second drive, Rombox, Protext, Prospell, Utopia & KDS ROMDOS ROMs, Multiface, Joystick, Tape Player, MP3-TV Tuner, Loads of Software & Books. £325 - Call: (05088) 546 (NORFOLK)

WANTED

AMSTRAD GX4000 GAMES, Especially 2 player, PANG,TENNIS etc, anything considered. Cash waiting. May consider complete outfit with games. TEL: 0638 666090 evenings.

WANTED information on Interfacing Manta Printer with 6128. Connector Cable is Dual Pin (Printer) to single (computer) (both stereo audio). Anyone have connection details or driver programme? Tel 051 334 8930

SWAPS

Will swap Man United and Man United Europe for Final Fight or Kick Off 2, or Lotus Esprit or F16 Combat Pilot. Phone 0524 844748. After 5pm

Will swap Bart Simpson VS Space Mutants for Bepton Must be on tape. Phone Michael on 0389 32875 or send a SAE to Michael Craig, 612 Muir Road, Dumbarton, Scotland. G82 3DJ

SERVICES

FREE! Basic and assembly language programming advice for everyone! Don't forget to send a SAE to Robin Gilbert, 9 Brynglas Terrace, Pyle, Mid Glamorgan CF33 6AG.

Tuck PD - For a stock list simply send a SAE to Tuck PD, 15 Ravencar Road, Eckington, Sheffield. S31 9GS. Also Penpals wanted at the same address.

GDPD Software - for a stock list send a SAE to GDPD Software, 49 Woodville, Barnstaple, N.Devon EX31 2HC.

USER CLUB/ FANZINES

CPC DOMAIN. The only disk based magazine for serious CPC users. Every Issue contains quality programs, reviews, features, letters and much much more. Send £1.25 PLUS disk for latest issue or SAE for details. 20 Montague Road, Saltford, Bristol BS18 3LA

AOK FANZINE for all CPC users. Many programming articles, PD pages, listings, advice, features, and more. £1 bi-monthly. Cheques payable to AOK. 155 HASLUCKS GREEN ROAD, SHIRLEY, SOLIHULL, WEST MIDLANDS. B90 2LG.

FREE ADS

Fill in the coupon below in BLOCK CAPITALS and send to:

CLASSIFIEDs,
CPC ATTACK,
Floor 3, Greater London House,
Hampstead Road,
LONDON NW1 7QQ.

☐ FOR SALE ☐ SERVICES
☐ WANTED ☐ USER CLUB/ FANZINES
☐ SWAP ☐ PENPAL

NAME...

ADDRESS...

....

................................POSTCODE.................................

TEL NO:...

PROGRAMS

CPC ATTACK! has taken some of the best readers' programs and put them on disk or tape for other readers to enjoy. The programs are good - we wouldn't be selling them otherwise - and come with complete and specially prepared documentation.

Fill in the form below, count up the cost of the order you have placed, and send this coupon, enclosing a cheque or postal order made payable to "DGC SOFTWARE", to:

PROGRAMS,
CPC ATTACK,
DGC SOFTWARE,
12 Stone Court,
Eccleshill,
BRADFORD. BD2 2HW.

I would like to order:

	TAPE	DISK
GAME COLLECTION 1	☐ **£9.95**	☐ **£9.95**
GAME COLLECTION 2	☐ **£9.95**	☐ **£9.95**
LEARN BASIC THE EASY WAY	☐ **£10.95**	☐ **£12.95**
MONEY MASTER	☐ **£10.95**	☐ **£12.95**
EASYDRAW 2	☐ **£10.95**	☐ **£12.95**
MACHINE CODE ASSEMBLER	☐ **£4.00**	☐ **£5.00**

NAME...

ADDRESS...

....

................................POSTCODE.................................

TEL NO:...

NEED HELP?

As we said before, most questions we get may appear to be easy peasy, but we can deal with hard ones too! (Oooh, er missis). If you need any type of technical advice then get scribbling. The address is:

**Q&A,
CPC Attack!,
HHL Publishing,
Floor 3,
Greater London House,
Hampstead Road,
London
NW1 7QQ
or FAX: 071-387 9518**

Please DO NOT PHONE as we can only reply within these pages





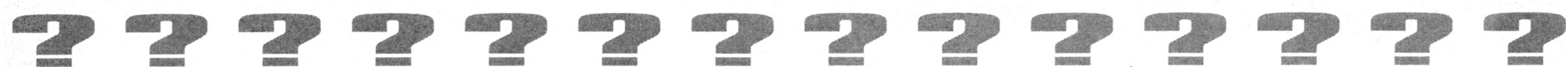
**Q Please could you help me? I have a CPC464 and have recently bought a book called "100 programs for the Amstrad CPC464/664/6128". Now they say in the introduction that there may be some bugs left in some of the programs. I have tried typing in one program and I can't get it to work. Does : at the beginning of the line interfere with the line in any way? I have come to understand that : means "new command", but some of these programs have just the line number and then : , and nothing more. Could you tell me what it means, as I have never come across it before. I am only a novice at this so whatever help you can give will be gratefully received.
Ms Nora Lees,
Birmingham**

A The : symbol is called a command delimiter, and you're quite right, it does separate multiple commands on the same program line. I have seen the book that you mentioned and the reason that they have : and nothing else on some lines, as far as I can tell, is to break up the listing into structured routines, hopefully to make it easier to follow. The : on its own has no effect on program operation.

**Q I know this might sound thick and all that, but what is a hard disk drive. What does it do, and how does it work. If I wanted to buy one, where could I get one and how much will it cost.
Tony Hutchison,
Manchester**

A A hard disk drive is a permanent hermetically sealed disk drive. To the average person in the street, it is a way of storing vast amounts of data in a very convenient form. Because the drive is sealed, and of very high precision, lightning fast access times are possible. The only drive currently available is the Fritz Oberheimer one (see last issue), and it stores 24 megabytes (about the equivalent of 35 3.5" disks). It costs a staggering 400 odd pounds, and is not worthwhile for the average user.

Q I have recently acquired an MP3 modulator for free. I also have a CPC 464 with a CTM640 monitor. However, I've been told that the MP3 is not compatible as it requires a 12 volt supply. I tried to use a Spectrum ZX81 supply to power it, the POWER LED lit up and all I got was TV sound and a load of horizontal black and white lines for a picture. Is the supply not big enough, the MP3 broken, RGB lead different, or are they just plain incompatible? I have enclosed an SAE for your





reply.
N. Buskey,
Manchester

A Hmmm, it's a bit hard to say why the MP3 isn't working, obviously not having it in front of me. Now if I remember correctly the ZX81 power pack threw out 9 volts at about 800mA. The MP3 needs at least 12 volts so perhaps that's the reason. You can obtain a suitable power supply from GVL Microform on 0772 701248. I would also like to point out that we cannot give personal replies to letters, so please don't send in SAEs. We are busy enough putting your fave mag together.

Q I have recently tried to copy The Addams Family using disckit3 on my CPC 6128, but after track one I get all sorts of errors. Why is this? I want to make a backup copy for my own use, I don't see why I should be prevented from doing so...
M Sergeant,
Liverpool

A Virtually all games disks nowadays are heavily protected. The Addams Family has a particularly vicious bit of protection on, that is IMPOSSIBLE to clone, in any way on any CPC machine, and even requires special duplication machines to copy it! Forget it...or see last month's news.

Q Please could you recommend the best first disk drive for an Amstrad CPC464. I don't care about the cost, just the quality. Are there any devices out there that have a first and second drive mounted on each other.
Noname (really!),
Yorkshire

Well, unless you want a second-hand DDI1 and interface, the only choice you really have is the Siren Package (reviewed this issue). If you NEED a 3" disk drive, then you have no alternative than to look in Micro Mart, or something similar, because Amstrad no longer make the interface. As far as quality goes, they are all much of a muchness. Buy whatever you can get the best deal on!

Q I have tried connecting a pair of headphones to the socket on the back of my 464 but I can't hear anything. Do I need a special kind of headphone set?
Alan Williams,
Bedfordshire

A Hmm, the socket on the back of the CPC is NOT a headphone compatible socket the output levels are too low you see. What you need is an Amplifier. Try Siren Software on 061-724 7572, who supply headphone and Speaker amplifier units.

Q Whatever happened to The Codemasters CD games pack?
Eddie Richards,
Leamington Spa

A Due to "technical reasons", the production version of the games pack was never released, even though it DID appear on a few other 8-bit formats. Shame, as the idea was superb...

Q Could you please answer the following questions for me?
1. Is it possible to connect my CTM 644 up to an Amiga?
2. If so, will the sound from the Amiga come through the monitor?
3. Could I also connect my 3.5" drive up to the Amiga?
4. Is there a CPC emulator available for the Amiga, like you can get Spectrum and C64 emulation?
Alec Scrimshaw,
Edinburgh

A No problem, here goes:
1. Yes, no problem: ask your friendly local electronic shop to make up the requisite lead for you. If they're not sure about the pin arrangement of the CTM 644, take along your CPC manual.
2. Sorry the CTM 644 has no speakers.





APPLICATIONS

Q I have a Cirkit HSS1 serial interface, which I was told was 100% compatible with the Amstrad specification. As it didn't come with a comms package, I went out and bought the Mini Office II program (which contains a comms module) specially. However, it doesn't seem to work at all! My modem is a Pace Linnet and my computer is a CPC 6128.
Mohammed Singh,
Leicester

A The Mini Office II comms program, I'm sorry to say, is a complete load of rubbish. Instead of using its own routines for serial interface input and output, it relies on the Amstrad serial interface's commands being present which is a problem for those, like you, with Cirkit interfaces! However, there is a solution: two, in fact. The first is to obtain a copy of a PD comms program, such as "Ansiterm", from a PD library. I checked through the various lists and found that Robot and Dartsma both have a copy of this program. The other possibility lies in a program called "Charley's Comms ROM", which will be available real soon now from STS Software. This will offer advanced file transfer capabilities, work at high speeds, and will work perfectly with your Cirkit interface although you'll need some sort of ROM socket to plug it into. Watch these pages for details of price, availability, etc.

Q I am having a few problems with the accounts for my small business at the moment, and money just seems to be slipping away. So I have decided to turn to one of my computers to do the accounts, but the question I would like answered is this: can I do this on my CPC or would I have to use my Amiga?
William Stevens,
Twickenham

A SD Microsystems produce a package ideally suited to your needs, called "Small Traders' Pack". Call boss Steve Denson on 0406 32252.



However, you can buy speakers (similar to the CPC Soundblaster) from Simon Cobb at Siren Software (for telephone details see earlier letter)
3. Yes again, you'll need the correct lead. Any Amiga disk drive lead should be okay.
4. Unfortunately not, which is surprising, considering the number of CPC owners (especially amongst the European demo scene) who are upgrading to Amigas. Still, here's hoping that this letter will spark someone off!

Q My printer is printing garbage and I'm not sure how to make it print properly. Any suggestions?
Matthew Khan,
Powys

A There are a few possible causes. The first one is that your printer lead is connected upside down to your CPC, which is easy enough to remedy. The second is DIP switch settings on your printer (always a problem): make sure they are set to Epson emulation. (Check your printer manual for details on how to set them). Alternatively, you should remember the computer saying, GIGO (which stands for Garbage In, Garbage Out). The computer only prints what you tell it to!

Q I bought a second-hand 464 Plus for only £50 from a guy I met down the pub, but it didn't come with a monitor. I have seen an advert for a GT 65 green screen monitor in the local paper's classified section. Would the two be compatible?
Matthew Dewhirst,
Slough

A Yes: you won't get any sound through the monitor, as it has no speakers. However, Adam Shade of Dartsma can make you up a lead to connect the computer to the monitor. Send a SAE for details to 47 Kidd Place, Charlton, London, or phone him on 081-317 1170.

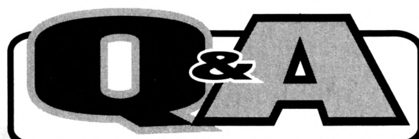
Q I have recently been offered for a very tempting price (only £20!) an Amstrad 5.25" disk drive. The drive (I gather) is intended for a PC 1512 and is 40 tracks, double-sided. The connector on the back looks similar to the B-drive connector on my CPC 6128: can the two be connected without having to buy an expensive cable from a hardware company?
James Long,
Oxford

A The Amstrad PC 1512 5.25" drive will indeed work on your CPC 6128 as a second disk drive. You will need the correct lead, however, and this must have two 34-way 0.1 inch pitch card edge connectors at both ends. One end plugs into your B-drive port and, at the other end, you should invert the plug and stick it in the back of your disk drive.

You will also need a power supply, which you can get from J.N.Bull Electrical on 0273 203500.

Q I have recently bought a second-hand 3.5" PC disk drive. As far as I can see I have successfully wired it up to my system, so in theory it does not work. The motor spins round, but all I get is disk missing errors, even with a disk in the drive. I thought that CPC would be compatible with PC drives, being as it apparently uses the Shugart connection standard.
James Brown,
Sheffield

A The drive will work, but you will have to make a slight modification to your mechanism. The reason that it doesn't work at present, is that PC drives do not have a READY line, on pin 34, which 'grounds' when a disk



PROGRAMMING

Q I have tried to type in some listings I have found in CPC magazines but they don't work on my computer (which is a CPC 464 with colour monitor). The lines which don't work include the commands GRAPHICS PEN, DEC$ and FRAME. Is my computer faulty and if so, will Amstrad replace it for me? (It is out of guarantee).
Simon Collins,
Wiltshire

A No, your computer is working perfectly. The commands you're having problems with aren't present in 464 BASIC but are in the 6128. There are two alternatives: the first is to upgrade your 464 to 6128 BASIC, which you can do by buying a 40025 upgrade chip from GVL Microform (see earlier letter for phone number (Some 464s have their 464 BASIC chip soldered in, in which case an electronics shop will be quite happy to replace it with the 40025 for you). Alternatively, you can simulate the commands above on the 464 as follows.

Replace GRAPHICS PEN xx by PLOTR 800,800,xx: MOVER 800,800 Replace FRAME by CALL &BD19 Replace DEC$(with DEC$((i.e. add an extra bracket. (This is a bug in 464 BASIC).

Q I would like to use the extra memory banks of my 6128 in my machine code programs, but I don't know how to use them. As you can only have a value from 0 to 65535 (covering only 64k) as an address, I am rather stumped. What do I do?
Alice Daniels,
Norwood Junction

A To ensure compatibility with other 128k CPCs (such as expanded 464s and 664s) you should use the Gate Array chip, at &7Fxx. To switch in one of the extra banks of 16k, send a value of &C4 (for the first 16k), &C5 (the second 16k), &C6, or &C7 to this port. The extra memory will be mapped over normal memory between &4000 and &7FFF, where you can address it as normal. For example, if you want to switch in the third 16k block, you would use code like this:

```
LD BC,&7FC6
OUT (C),C
```

To return to the normal memory arrangement, send &C0 to the port.

Q I keep on running out of registers when writing my machine code programs. Is there any way of getting extra registers on the Z80, as I find only seven a bit limiting.
Peter Jones,
Liverpool

A The Z80 in fact does have more registers than the standard seven (A, BC, DE and HL): there are the IX and IY registers, which are both 16-bit registers like any other, but with some extra features. For example, instead of simply entering LD (IX),A, you can have an instruction with what's known as an "offset" such as LD (IX+5),A. There are also a second set of registers (known as the "alternate register set"). These are swapped with the first set by the instruction "EXX". However, this isn't much use on the CPC, as unless your program runs with interrupts disabled (which means that you lose control of sound, keyboard scanning, etc.) the firmware requires these alternate registers for certain vital functions. Best not to use them, then.

Finally, perhaps you should be making use of variables in memory more. The Z80 really doesn't have enough registers to be able to use them in the same way as you would use variables in BASIC!

Q How do I load more than one screen into my CPC 6128's memory, then display them when I want? I have tried using the "BANKMAN" software supplied, which is fine, but it's a pain to have to load it in every time I want to display screens. Surely I can do this without using BANKMAN.



is inserted into the disk drive. You can simulate this by adding a small wire link onto the underside of the mechanism. Locate pin 34 (it should be marked as such), and solder a link onto the opposite pin, which will be a ground. The disadvantage of this however is that the disk drive will not tell you whether a disk is missing in either A or B. Some people may like this but you pays yer money, and you takes yer choice.

Q I have ordered a demo called "Terrific Demo" from a PD library but when I received it through the post it didn't work on my 6128. However, when I took it round to a friend's CPC 464 with disk drive, it worked perfectly. Both the systems are unexpanded. Am I doing anything wrong?
Don Tucker,
Llangollen

A The problem is that not all disk drives on the CPC are the same specification. Although the disk drive is officially a 40 track disk drive, some programmers (like the authors of Terrific Demo) use the fact that you can usually also format, read and write tracks 41 and 42 on most drives. A few (about 8%) object to "bending" the specifications like this, and your 6128 obviously has one of these. Send it back to the PD library and they should be happy to exchange it for another disk.

Q I have a Prism 2000 modem and the bulletin board I want to ring only works at 300/300, 1200/1200 and 2400/2400 baud. The box of the modem says that it copes with "1200/1200 baud half duplex", but I cannot find how to set it to this speed. How do I do it?
Adam Squire,
Charlton

A "1200/1200 baud half duplex" is not proper 1200/1200 baud. Although it can be used (with a bit of effort) for communication between two users, half duplex (which means communication in one way only at once) is not much good for bulletin boards. If you want to join the comms fraternity properly, you'd be better off buying a decent modem which copes with speeds such as 2400/2400 baud you'll save on the phone bill too.

Q Can you solve the problem of the symbol ^ (which does not appear on our 6128+). I see this symbol in your pages 60 and 61 in July's issue of Attack! I have also previously see this symbol used in listings before. I have an idea it may be the unshifted pound sign key, as used in arithmetic calculations as the exponentation. Am I right, if not please explain what the ^ symbol means and how to produce it on the screen.
James Derwent,
Manchester

A You're right in saying that the ^ symbol is obtained by pressing the pound sign without shift, and it is used to raise a number to a power. For example, PRINT 2^3 will print "8" on the screen, which is 2 cubed.

Q What's the difference between the |DIR and CAT commands? Both



<<We've had a number of letters regarding the non-functioning of the PROOFREADER program, here's one we picked out of a hat...>>

In answer to George Maskhams letter in the last issue, The answer is that over the last three years, there has always been the same problem in the listing. Line 340 should read POKE rst+i,peek(sc+i). The listing in fact prints an I instead of a one.
Dan Thomas, Birmingham

John Fairclough,
Bath

A Certainly. See the reply to Alice Daniels's letter above for information on how to do it from machine code, but it's not too difficult from BASIC either. We can store five screens in memory at once, four in the extra 64k, and one in normal memory from &4000 to &7FFF. The four in the extra banks can easily be selected by an OUT: OUT &7F00,&C4 to select the first screen in the banks, OUT &7F00,&C5 for the second (etc.), and OUT &7F00,&C0 to deselect them. All we need is a short program to copy the screen from &4000 (where it is switched in by the OUT) to &C000, and here it is:

```
10 FOR n=&AF00 TO &AF0B
20 READ a$: POKE
n,VAL("&"+a$)
30 NEXT
40 DATA
01,00,40,11,00,C0,21,00
50 DATA 40,ED,B0,C9
```

For example, to load two screens (SCREEN1.SCR and SCREEN2.SCR), one into &4000 in the normal memory and one into screen three in the extra memory, and then alternate the two, add these lines:

```
60 MEMORY &3FFF
70 LOAD
"SCREEN1.SCR",&4000
'screen one into normal
memory
80 OUT &7F00,&C6
90 LOAD
"SCREEN2.SCR",&4000
'screen two into extra banks 3
100 OUT &7F00,&C0
'deselect extra banks
110 CALL &AF00
'display SCREEN1.SCR
120 CALL &BB18
'wait for a key to be pressed
130 OUT &7F00,&C6
'select extra banks 3
140 CALL &AF00
'display screen
150 OUT &7F00,&C0
'deselect extra banks
160 CALL &BB18
'wait for a key to be pressed
170 GOTO 110
```

Q I'm writing a program in machine code which needs to be able to read the disk catalogue, so instead of printing it up the standard way (headed by "Drive A: user 0", etc.) I can format it to fit in the catalogue window. However, I'm not sure how to do this. A friend says that I need to read sectors from the disk but this seems much too difficult, after all, surely the CPC has routines built in to read the catalogue?
Nelson Armstrong,
Glasgow

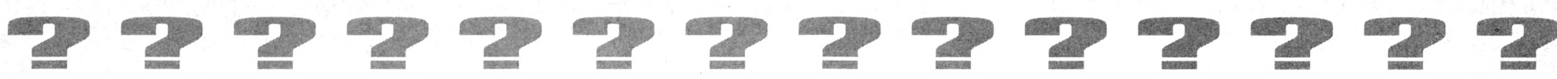
A You're quite right when you say that the CPC has routines built in to do this: you use the normal CAT command, from machine code. First of all you need to turn the screen off, so that CAT does not print up its own display. You do this by calling TXT VDU DISABLE at &BB57. Then you need to call the CATalogue routine at &BC9B, which requires the address of a 2k buffer to be passed as a parameter in DE. Finally, you need to turn the screen back on again, using TXT VDU ENABLE at &BB54. For example, to read the catalogue into a buffer at &4000, you would use the following routine:

```
CALL &BB57      ;disable screen
LD DE,&4000     ;address of buffer
CALL &BC9B      ;call the catalogue routine
CALL &BB54      ;and put the screen back on again
```

But how's the information stored in the buffer? Each file has a 14 byte entry in the following format:

255 (&FF) 1 byte to indicate start of entry
Filename (11 bytes, does not include dot between main part of filename and extension)
Size in k (2 bytes, low byte first)

If you can't find 255 at the start of an entry, that indicates that there are no more entries in the catalogue.



REVIEW

TEARAWAY

£12.50 (£7.50 with disk)
Multiface and 128k required

Tearaway could easily be described as THE hackers utility. Designed to be used with the Multiface II this is the only alternative to the awful INSIDER, in fact it's what insider should really have been. When installed, a bit of Tearaway sits inside the Multiface, and the rest of the code sits in the CPC's extra RAM. Obviously this limits hacking to 64k only games, but this is only a slight niggle.

What makes this program really stand out is its power. And this is what makes it also attractive to the hacker. For instance it's one of the few (maybe even ONLY!) disassemblers that recognise the Z80 undocumented opcodes, that are used in the most popular protection systems. This means that code that looks like gibberish when viewed with another assembler suddenly becomes altogether clearer. Another feature it has, is the ability to view memory as a graphic image. Using this feature, it is possible to locate graphics data, and sound data etc, IF you know what you are looking for. When you press the red button on the multiface, a full-screen menu pops up. From here you are given a plethora of options, such as Disassembling memory, EDITing memory, investigating CRTC, and Z80 registers etc. I recommend a good knowledge of Z80 and CPC firmware before attempting to fiddle with registers and other such things. Why not get a copy of the Printout firmware guide and a Z80 programming book, because this program is NOT for novices. Obviously there are going to be comparisons made with the aforementioned INSIDER. Both are designed to utilise the Multiface, and Insider doesn't use any CPC RAM to operate. Instead, when it needs a code module it'll load it off the disk. Unfortunately the loading system was so unreliable, that it would work an average 3 times out of 10. Because of this, and many other niggles, (like a 2-inch high editing screen!), once you've seen both programs working side by side, there really is no comparison to be made. So we won't, eh?

Onto the menu options then. From the main menu, where you can do all sorts of really wicked things, as I mentioned earlier, one if its most powerful attributes is the Disassembler, and another very important one is the Unique NULL BYTE SEARCH option. This is an absolute boon for hackers, because infinite lives, etc. can be discovered with a minimum of ease. For example, an infinite lives routine may work as follows:

Assembler	Machine code	Comment
LD A,3	3e,03	;number of lives
LD (&3004),A	32,04,30	;&3004 stores lives counter
<<Rest of program>>		

The life counter may work as such

LD A,(3004)	3a,04,30	;get the lives counter
DEC A	3d	;a=a-1
CP &00	fe,00	;is A zero (no more lives?)
JP Z,&4002	c2,02,40	;yes, then jump to end of game routine
LD (&3004),A	32,04,30	;no, then save new life counter
JP &2000	c3,00,20	;and jump to main loop of game

With Tearaway, you would set the NULL byte option to zero, and search for the bytes : 3a,00,00,3d,00,00, which would search for all occurrences of those byte values, no matter what the locations with #00 were filled with. Very clever, and very surprising that no-one else has thought of this idea.

RATING: 90%

Contact:
CPC Network, 0945 772035 after 6.30pm



of them seem to do the same.
Obi Patel, Derby

A There are two differences. "CAT" sorts the directory into alphabetical order before printing it, and it also prints the file size in "k". |DIR does neither of these.

Q I have a John Morrison EPROM blower but it does not seem to program any EPROMs correctly. The software gives me the counter going from C000 to FFFF but, at the end, "Error at location: C000" is displayed. I have Protext, Utopia and Prospell ROMs plugged in, could one of them be interfering?
Robert Ham,
Scotland

A Sort of! In fact, the EPROM blower is very fussy about where you plug it in. As it requires all the current from the expansion port to be carried through for it to be able to generate sufficient voltage (using the transformer) to program the EPROM, it should be plugged straight into the expansion port, with nothing in between, for the ROMs to program correctly.

Q A friend of mine has an Atari ST and some of the music on it is really good. He says that the sound chip on the ST is the same as on my 464 Plus. Is this true and, if so, how can I run this music on my computer?
John Elton,
West London

A Your friend is right when he says that the computers have the same sound chip. Theoretically, any ST music can also run on the CPC. However, the computers do not have the same CPU, neither do they have the same input/output addressing scheme for the sound chip. This means that to port music, you'll have to rewrite the 68000 assembly language sound driver into Z80 assembly language. Not a pleasant job!

It can be done, though, and to hear some ST-ported music seek out a copy of Logon System's "The Demo" from a PD library near you.

ADVERTISERS INDEX

ACF....24
Alternative Software....IFC
Apex....63
Atlas....25
Avatar....31
Boxoft....63
Brunning....3
Cheetah....OBC
ERC....17
GVL Microform....IBC
MJC Supplies....14
OJ Software....46
Pipe Line....63
SD Micros....17
Silica Shop....47, 51
Siren Software....10
Software City....6, 7
Strategy Software....17
Trade-in-Post....63

LETTERS



Gotta letter? Then get it in!

**Letters,
CPC Attack!
HHL Publishing,
Greater London House,
Hampstead Road,
London NW1 7QQ**

**or fax:
071-387 9518**

RAMARAMAROO!

On the topic of cover disks and tapes, the best way to get round this is to have coupons in your magazine so that readers can buy the disc/tape at reduced prices from the programs service.

J.Love, Lonigan

Erm, I think that this has gone further than it ought to have. We first said no way, then we said maybe, but we're sticking to our first story (for now anyway) and there's no way we're doing a cover tape although the program offers will continue (see classified). Remember, you heard it here first!

LISTEN UP

Can you pass my address onto your correspondent (June issue) who wished to purchase programs on PCB design. I have a John Morrison Printed Circuit Board Design cartridge for the CPM6128 if he is interested.

Being retired I am at home most of the day should he wish to telephone on 0277 622746.

M.F.Gurney, Billericay

Wow, way to go, getting a free ad, but it is a reader service after all and a very helpful one at that. Just hope it's appreciated.

HEY YOU!

I've been told that 3DPD is no longer in existence and that the librarian who ran it has now taken over Scull PD which is only open to subscribers of CPC Domain, a disc-magazine. I could not get a stocklist so it's completely useless to me and many other CPC owners.

I've had a good list sent through by Demon PD and Adventure PD, although Adventure PD charge twice as much if you don't pay £10 per year to join their club.

You may be interested to know that these PD libraries are charging £2.50-£3.00 for blank discs! Come on, they are available at under £1.60 from MJC Computer Supplies, who incidentally provide an excellent service.

Jeff Martel, c/o HMS Illustrious

Well, if you don't like any library's rules and conditions there's plenty others out there (see PD section). The best advice I can give is to try out several libraries with small orders and see which suits your needs best. It always pays to shop around, and as most libraries carry the same product availability shouldn't be a problem. Blank discs are hard to come by and again it's best to shop around.

POPPYCOCK

I think that someone is telling porkies that Amy is unpopular amongst older readers. I am 72 years old and I think that Amy is the best thing that has happened to the CPC in a long time.

Stephen Lanigan, Eyethorne

Never mind Amy being the best thing, what about CPC Attack! Anyway, it was a general observation that Amy was least liked by older folk, who obviously prefer going to bed at 8pm with a hot cup of Ovaltines than staying up to watch a late night movie!

Is CPC Attack! getting better?... C'mon, £3.00 for a blank disc?... Should we have covertape coupons?... Where can you get Cart games?...

PRIZE LETTER - £25 WINNER

YO! I'm back again, but not with a complaint this time as you have made the changes and the mag is 10 times better than it was (well done). At least you make an effort as Amstrad Action seem to ignore letters they receive.

They think their mag is the best, but they change it all the time - since I started buying it they've had 3 different looks. Obviously it's because they're mag is naff, don't you agree?

Anyway, you reviewed Lemmings in your first issue, giving it a rating of 98%. Well, after that I decided to buy Lemmings because your review was brilliant, but to my disgust Lemmings was rubbish. There was no sound, not even a peep or a beep, and the flow of Lemmings onto the screen was a dismal 20. I thought this was utter garbage so I would like to get a few facts straight. Did you review Lemmings with a 6128 128k or a 464 64k (my machine)?

Please give advice. Is Lemmings better with 128k or 64k? Should I buy an expansion to upgrade my computer to 128k, making Lemmings a better game?

Kenneth Macleod, Stornaway.

Shucks! Thanks! 10 times better - we love it. Honestly, we think we are a lot better too. Our first two issues were, to be frank, quite naff and a lot of hard work and listening has resulted in stark improvements.

As for AA, we haven't ever said that it was a nob magazine and we won't now, although we did refer to it as being a rag, but only once - honest guv! They may be a bit miffed that we got the exclusive review of Lemmings, but that shouldn't be a reason to slag us off and, in their latest issue, state that they hope we grow up. They seem to think that we have attacked them, with their staff writer writing some naff words about us (sob, sob, sob...as if we care matey). I think it is they who need to grow up!

We got what we wanted out of the dialogue anyway - to get the message that we were here to the majority of CPC owners. I don't think that there is a reader of either ACU or AA who doesn't know about us - and that can only be good! If any choose not to read our mag because of their allegiance to AA then fine - it's they who lose out, and good luck to them, each and every one!

Anyway, about Lemmings; we did review the disc version which was, at the time, incomplete, but not unreviewable or Psygnosis would never have allowed it! We did stick our neck out by reviewing a pre-release version so that it was published before the game reached the shops. Other magazines prefer to only review complete versions (so as not to make too many mistakes) and the game often appears in the shops before the review does in a magazine. This doesn't serve the public interest.

We are experienced journalists who know what to look for when reviewing incomplete versions of software/hardware. We did make the mistake of stating that there were 80 levels, where in fact there are 80 screens and only 60 levels. This was an error, but these things happen in magazine publishing. For instance, we have since found that there are some bugs in the game, but AA didn't spot these when they reviewed the game either - and they supposedly had a superior version which made their "similar scoring" review more authoritative - supposedly!

Anyway on to your main question; the only difference between the 128k version (reviewed) and your 64k version is that there is no sound. Upgrading to 128k would solve this, but it's hardly worth it unless you wish to play other 128k only games or put your CPC to serious use. The release rate varies from level-to-level and is quite easy on the beginners' courses. However, we still stand by our review and our claim that it's the best CPC game ever, but it is your prerogative not to like it if you don't want to.

As a reward for your frank opinions you have won £25.

OI! I have an old CPC464 which has now seen its last days and has given up on me. Seeing as it is now unavailable could you please suggest which type of computer I should aim to replace it with. I am not interested in the consoles, but would like a computer with a cartridge port if possible. I need the computer for word processing. I cannot afford a PC and don't like them much anyway. I am looking for a computer that will be around for a good few years yet. I do not want to buy another CPC compatible because they are just too expensive for what you get (no offence meant by the way!)

I am writing this on a friend's Amiga which I like but have no information on. Will you be covering any of the home computers in the future?

Chris White, Great Missenden

It's a shame that your CPC is packed in, but aren't you giving up on it? Can't you get it repaired or buy a second-hand replacement? It's a shame that your letter seems to be despairing rather than hopeful. If you are happy with your CPC then I'd advise you to phone up the sellers in the classified ads and try and get a good bargain.

If you are set on changing your micro, there's only one choice for you - the Amiga, but which one? The Amiga 1500/2000 seem to be over-priced and not good value (like a new CPC?). There's the now obsolete, but popular, Amiga 500 and the new, but unproven, Amiga 600. Personally, the 1Mb Amiga 600 is very nice at £400, but it has limited add-ons and whichever do eventually appear will be more expensive than their A500 counterparts.

I'd say that the Amiga 500 was the safest bet - you can pick one brand-new for around £270 with 512k, or £320 for the 1Mb A500Plus, which is recommended.

There isn't any point in running features on home computers as there are many magazines devoted to them. The Amiga is the only choice. If you are unsure of which model to choose, why not buy an Amiga magazine and read the letters pages, but the A500Plus is recommended.

STREUTH!

I'm trying to obtain some game cartridges for the Amstrad GX4000 console. I've had a different story from almost everyone I've contacted and that includes the Amstrad Users helpline!

These are my main questions:

1. How many games are still available?
2. What are these games about?
3. Is there any "inside info" as to how to obtain discontinued games, i.e. PANG, which I've seen reviewed as one of the best two player games ever devised.
4. Should I just bin the lot and steal a Megadrive?
5. Don't answer the last question!

Steve Palmer, Newmarket

What's with all the tough questions, mate?

1. As far as we know, there are about 18 games still generally available and they're all on special offer.
2. These are: Klax, Pang, Pro Tennis Tour, Batman-The Movie, Op Thunderbolt, Barbarian II, Dick Tracy, Pinball Magic, Swap, Navy Seals, Robocop 2, Switchblade, No Exit, Crazy Cars 2, Epyx World of Sports, Fire&Forget 2, Mystical and Tin Tin on the Moon.
3. Try the following numbers: The User Club 091-510 8787 (Oi! that's our subs number too!) and Trade-In-Post 0952 462135.
4. Yep!
5. Erm, ignore answer 4.

ONE STEP BEYOND...

CPC Attack!

NEXT MONTH

NOVEMBER ISSUE
On sale on (or around) 1st October 1992

IMAGE PROCESSING
Build your own image processing system around your CPC. We show you how and explain some of the basics

MIND YOUR LANGUAGE
This in-depth examination of programming languages explains which one is best for what

THE TOP SECRET INTERVIEW
We know who it is, but it's classified info and marked "For Ed's Eyes Only". Next month all will be revealed. Don't miss it!

REVIEWS
There's no guarantee of a big release, but we are hopeful, and there will be a generous helping of budget releases at hand

COMPLETE CONTROL
We'll have Lemmings mapped out in full glorious technicolour

PLUS all the regulars
CPC Q&A, Tutorials, Program Listings, Public Sector, Pokes, Maps & Tips

NEWSAGENTS ORDER FORM

Dear Newsagent, keep me ___ copies of CPC Attack!, pretty please

NAME..

ADDRESS..

....

....

POSTCODE..

- Newsagent: You can get CPC Attack! from your local wholesaler

PURE

KIDZ WANNA HAVE FUN





DANGER MOUSE IN BLACK FOREST CHATEAU ★ †



POSTMAN PAT 2 ★ ‡ ●



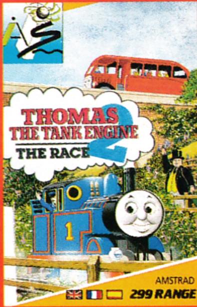
ALVIN AND THE CHIPMUNKS ★ ‡ ●



POPEYE ★ ‡ ●



BANGERS AND MASH ★ ‡ ●

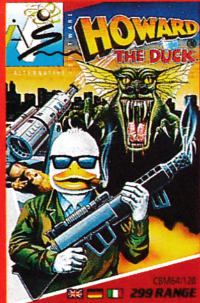


THOMAS THE TANK 2 "THE RACE" ★ ‡ ●

£2.99
£3.99



SOOTY AND SWEEP 2 ★ ‡ ●



HOWARD THE DUCK ★ ● ‡



COUNT DUCKULA 2 ★ ‡ ●



PUNCH & JUDY ★ ‡ ● †



BACK TO SCHOOL ★

IF, AFTER TRYING YOUR LOCAL COMPUTER SOFTWARE RETAILER, YOU STILL HAVE DIFFICULTY OBTAINING ANY OF OUR GAMES PLEASE SEND A CHEQUE OR POSTAL ORDER MADE PAYABLE TO:

ALTERNATIVE SOFTWARE, AT THE ADDRESS BELOW, STATING YOUR NAME AND ADDRESS, WITH THE TITLES AND FORMATS YOU REQUIRE.



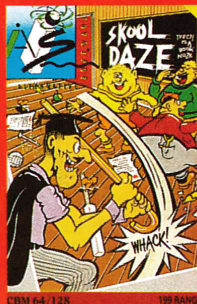
CLASSIC ARCADIA TRIPLE DECKER ★ ‡ ●



POSTMAN PAT 3 ★ ‡ ●



BMX NINJA ★ ‡ ●



SKOOL DAZE ★ ‡

★ = Spec
‡ = C64
● = AMS
† = MSX
Δ = BBC/Elec
◆ = Atari XE
□ = C16

ALTERNATIVE SOFTWARE
UNITS 5-7, BAILEYGATE INDUSTRIAL ESTATE, PONTEFRACT, WEST YORKSHIRE, WF8 2LN.
TELEPHONE 0977 797777 FACSIMILE 0977 790243

3.5" Mega Drive £79.95

(Including FREE MS800 and 10 free 3½" disks)

FEATURES:

- ★ 800K per disc when used with MS800 (supplied FREE), RAMDOS, ROMDOS, or RODOS.
- ★ DUAL MODE: Mode 1 - The Mega Drive is a complete alternative B drive. Mode 2 - The Mega Drive will also format up to 800K per disc.
- ★ SIDE SWITCH switches the disc between side A and side B of your 3.5" disc, for mode 1 operation. The side switch is not required when used with RAMDOS, ROMDOS or RODOS.
- ★ EXTERNAL PSU The power supply is external, and should the need ever arise is easily replaceable.
- ★ MULTI-COMPATIBLE The Mega Drive is compatible with almost all other computers, so that if you change your computer you can transfer your Mega-Drive. Only a different lead and connector are required.
- ★ COMPACT SIZE The Mega Drive measures only 7" x 4" x 1".
- ★ RELIABLE The Mega Drive uses the most reliable TEAC mechanism, and assures you of trouble free operation. Full 12 months RTB guarantee.

G.V.L. Microform (Dept CPC9)
191, Watling Street Road, Fulwood, Preston, PR2 4AE
Phone: 0772-701248 Fax: 0772-703131

FDI Disc Drive.......£79.95

Overseas Orders Welcome

MS800 - the STANDARD in 800K storage....................£9.95
MS800 enables the Dual-Mode disk drive to store up to 800K per disk. Since it was introduced last year it has become the best selling software of its kind by far. So much so that many people have converted their earlier 3.5" and 5.25" drives to dual-mode capability and switched to MS800. As one user put it "...MS800...knocks spots off Rodos" and we have had similar comments concerning the other alternatives.

FEATURES INCLUDE:
360K, 400K or 2 x 180K per side; compatible with CPCs, PLUSes CP/M+, MFII, Stop Press, etc.: 64 or 128 directory entries; verify disk: disk copy; file and batch copy; unlike all alternatives each disk initialises the computer for its own format without using up any of the storage space! Once a disk has been formatted. MS800 itself is not needed.
Formatting up to 400K on each side needs a SIDE SWITCH on the drive. Our drives already have one fitted, but for £3 we can supply a kit and instructions - suitable for 80 track, double sided 3.5" or 5.25" disk drives.

Side Switch with instructions £3.00

SPECIAL OFFER
50 X 3.5" Discs & Disc Box
!!! £29.95 !!!

MP3 TV Tuner.....................£29.95
CT1 Clock/Radio..................£14.95
MP3 & CTI.........................£39.95
MPIS (Scart/Peritel)..............£29.95
MPZS (Scart/Peritel).............£39.95

MAXIDOS (with FREE PROCOPY) – £13.95
THE MOST COMPREHENSIVE & EFFECTIVE GENERAL DISC UTILITY PACK FOR THE CPC
MAXIDOS is Fully compatible with RAMDOS, ROMDOS, AMSDOS and CPM formats! COPY files/disks; VERIFY disks; RESURRECT erased files; FAST FORMAT Amsdos/Ramdos/Romdos; IDENTIFY format; CAT files (inc. erased ones) optional status/address/length/etc; alter USER AREAS, make/unmake system or read only, DISPLAY or PRINT files...AND MUCH MORE! BEST SECTOR EDITOR EVER for the CPC. All standard editing facilities PLUS FILE MAPPING to screen or printer, auto step by step movement through a file, string and byte SEARCH through file/disk. FILE ARCHIVER backs up disks to tape: variable baud rates. SPEED UP YOUR DISKS! unique OPTIMISE re-arranges your crowded disks making them load up to 50% faster.

Trade Enquiries Welcome

BONZO SUPER MEDDLER £13.95
now includes the BONZO HACKPACK - FREE! The most comprehensive tape to disc utility. Supplied on disk with a huge database of verified transfers. Produces stand-alone transfers.

BONZO BLITZ £13.95
now includes the BONZO DOODAH *and* 4 adventure games – *free!* Tape to disk transfers. Deals with all forms of Speedlock. Works on all CPCs. Huge database of verified transfers.

BONZO BIGBATCH £9.95
Fast. flexible DATABASE, superb FOOTBALL POOLS PREDICTOR plus a user-friendly, memory saving SCREEN & SPRITE DESIGNER.

BONZO FLASHBACK £9.95
"The best all round BASIC extension program" WACCI. FLASH BASIC adds about 70 extremely useful RSXs to use in your BASIC programs but the resulting programs will run on any computer without the presence of FLASH BASIC. Includes a database and other excellent example programs.

ABBA SWITCH (6128/644).......................£12.95
THIRD DRIVE SWITCH (6128/644)...........£12.95

6128 ROM £24.95
(Including filing instructions)

FILE TRANSFERS
CPC To/from PC's, PCW's and Others
2in1 ....£24.95 MFU £29.95
(Both programs ran in CPM+ NOT CPM 2.2)

464/464+ OWNERS
Want a DISC DRIVE? Cannot find a DD1-1?
Exchange your 464 for 6128............................£129.95
Exchange your 464+ for 6128+..........................£99.95
It's cheaper than buying a DD1-1, Rampack, & ROM

OTHER ITEMS

3.5" Discs (Mitsubishi Branded)	(10)	£7.95
3.5" Discs (Ex software house)	(10)	£5.95
3" CF2 Discs (Amsoft)	(10)	£19.95
3" CF2 Bulk	(10)	£15.95
Plastic cases for 3" CF2 discs	(10)	£5.95
3.5" Disc Box (Holds 50)		£7.95
Printer Lead		£7.95
64K DKtronics RAM PACK		£39.95
6128 ROM (with fitting instructions)		£24.95
6128+/464+ Adapter		£9.95
Disc head cleaner 3"/3.5"		£4.95

GVL MICROFORM

Phone your order before 3.00pm for same day despatch

All prices include VAT, postage & insurance for UK & BFPO. Overseas orders charged at the cost of airmail postage. Trade enquiries welcome.

CREDIT CARD ORDERS
(24 hr Service)

Phone 0772-701248